

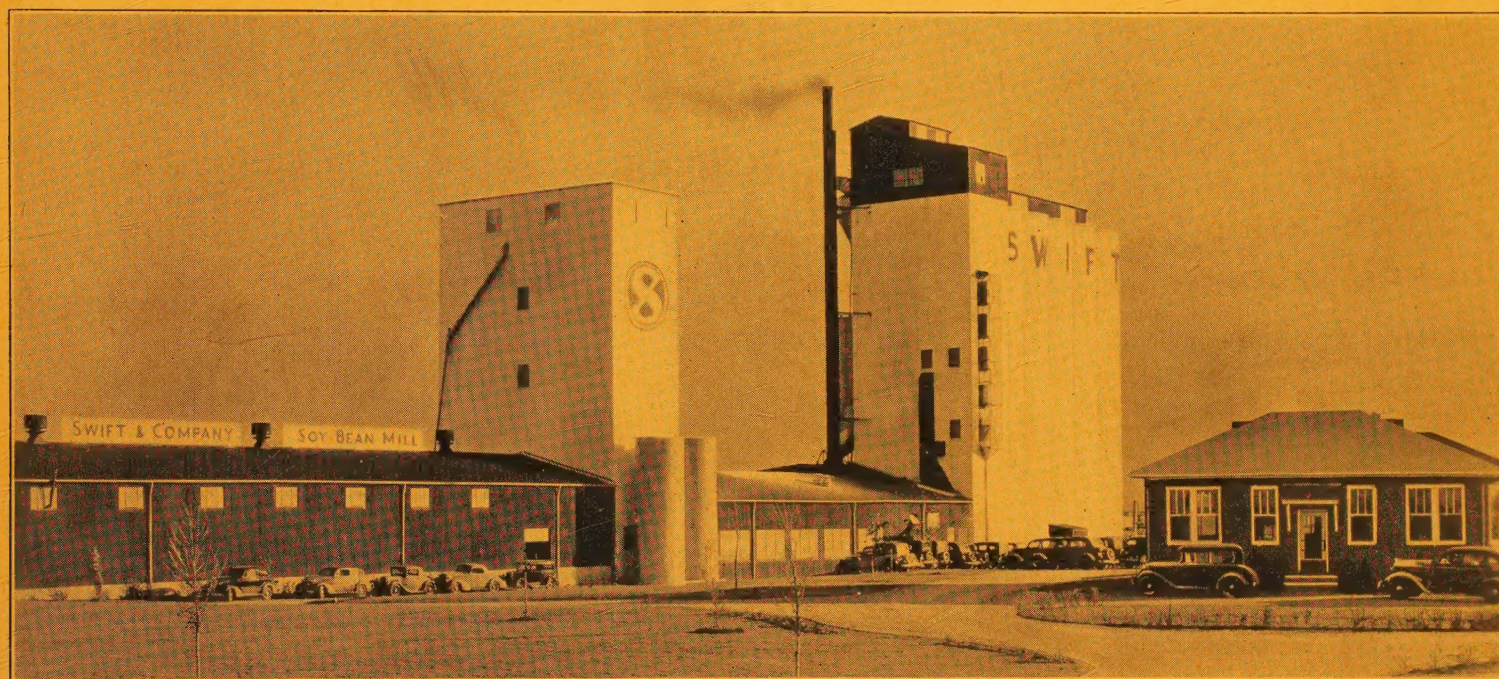
GRAIN & FEED JOURNALS

CONSOLIDATED

Vol. LXXIX. No. 12

Chicago, Ill., U. S. A., December 22, 1937 Price \$2.00 Per Year. 25 Cents Per Copy

A Merger of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter



Swift & Company's Soybean Plant at Champaign, Illinois
[For description see page 540.]

Directory of the Grain Trade

In Organized Markets Only Members of the Local Grain Exchange Will Be Listed

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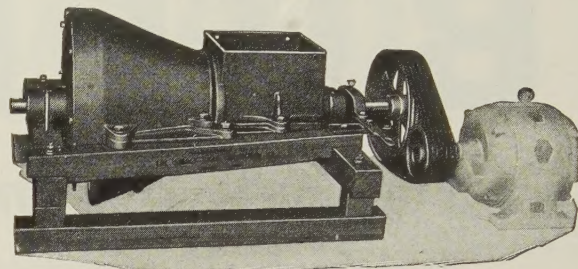
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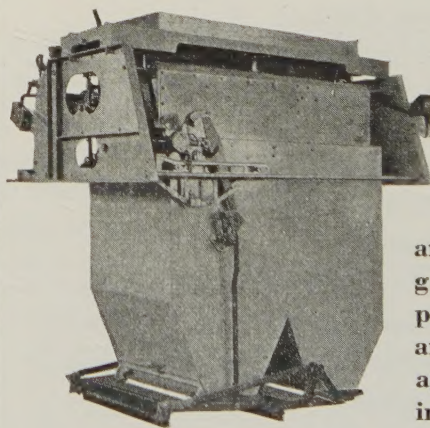
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*Complete Equipment for Grain Elevators
and Feed Mills*

ARE YOU PAID FOR ALL GRAIN SHIPPED?



Load your cars or trucks with the
RICHARDSON
Automatic
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and be safe. It gives you a printed record and protects you against "Jack-ing" or any tricks.

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Be safe rather than sorry.

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Operating Standards change as do Business and Living Standards.

Present conditions require more careful study of Dust Hazards, not only from the explosion standpoint, but from the standpoint of health and working conditions.

Let us help you bring your plant up to 1938 DUST Standards.

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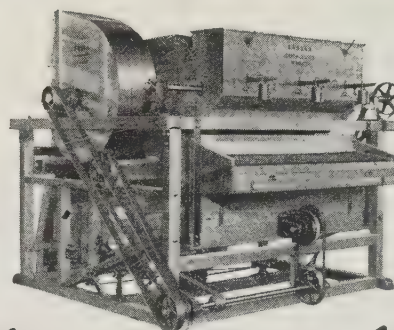
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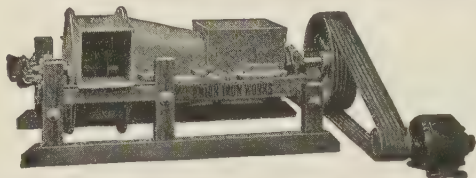
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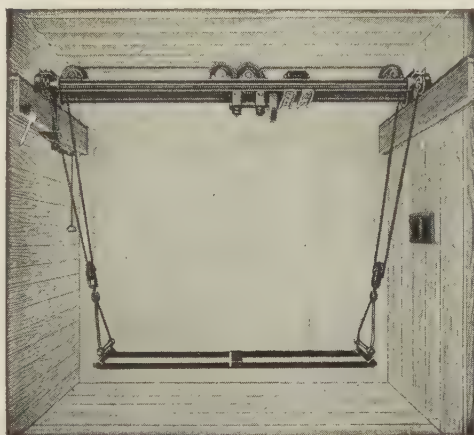
Every kind of grain, seed or feed cleaning—at standards finer and more uniform—at a capacity 15 to 25% greater—than any Cleaner you are now operating, that's what "Magic Screen" cleaning would do for you. Saves power—reduces shrinkage loss—eliminates repair bills.

Ask for catalog 1590.

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WESTERN— **GRAIN ELEVATOR EQUIPMENT** —

Western Pitless Sheller with Cog Belt Drive



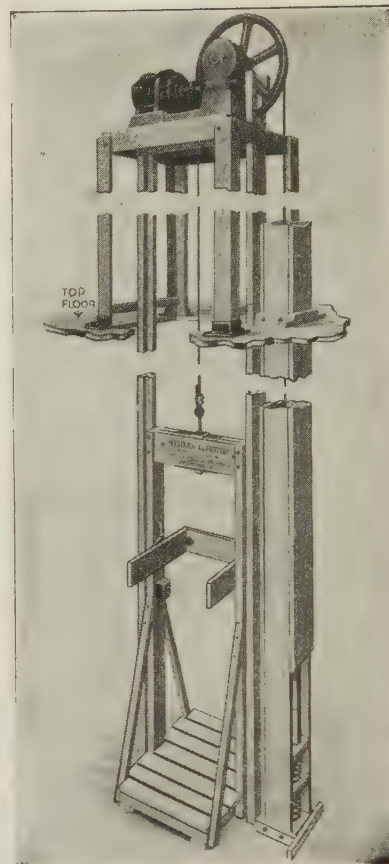
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The **ELECTRIC MANLIFT** takes its place alongside our Electric Truck Hoist and Motor Driven Corn Sheller.

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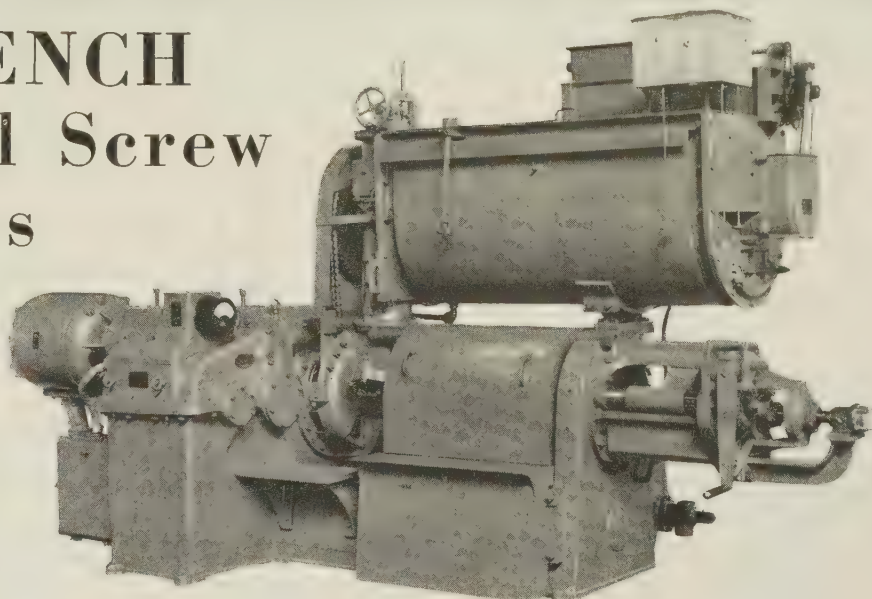
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**ASSOCIATION OF MILL AND ELEVATOR
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The FRENCH Mechanical Screw Press

for pressing soya beans,
linseed, cottonseed,
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other oil bearing seeds
and nuts.



Where the highest quality of machine is desired for peak capacity, minimum power and low oil extraction, simplicity and a minimum of repair costs, more and more mills are specifying the French Mechanical Screw Press. Submit your problems to us—no obligation.

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We back this man with a competent staff of engineers, each an experienced man in his field. Our whole organization—management—Sales—Credit—Production and Development are geared to coordinate with him.

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Over 60 years' experience—Installations in most of the world's largest elevators and processing plants.



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8 Story Flour Mill — 4 Story Cereal Mill
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*designed and constructed by us under a
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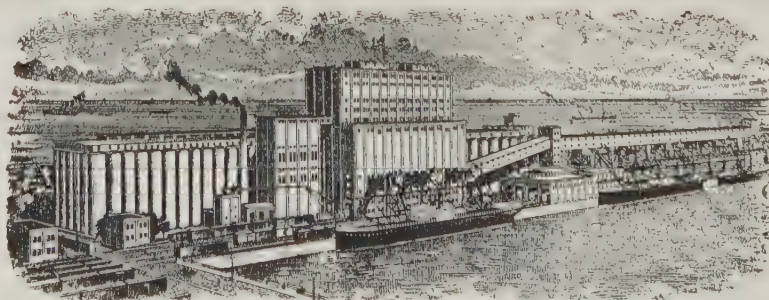
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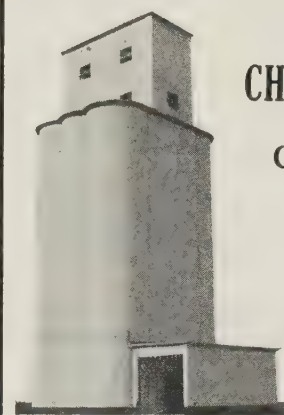
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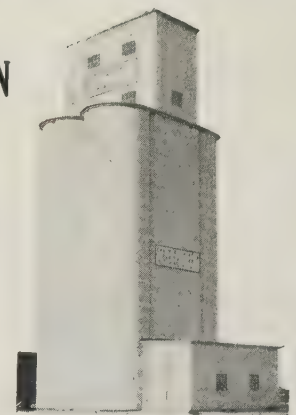
by advertising directly
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to buy, by using a
Grain & Feed Journals
For Sale Ad



CHALMERS & BORTON

CONTRACTORS
AND
ENGINEERS

HUTCHINSON,
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Grain Storage Receipts

Is designed to be used by elevator men in keeping record of grain stored for farmers.

The book is $3\frac{3}{8} \times 10\frac{1}{2}$ inches, and contains 50 receipts and 50 stubs, on which are entered the essential facts regarding each lot of grain stored. It is intended that storage receipt shall be signed by buyer and given to farmer when grain is received, and cancelled when grain is bought by elevator man or delivered back to farmer. The laws of some states require the use of storage receipts. Elevator men who store will prevent misunderstandings, avoid disputes, lawsuits and losses by using such receipts. Order Form 4. Price, 70c, f. o. b. Chicago. Weight, 6 ounces.

GRAIN & FEED JOURNALS

Consolidated

332 S. La Salle St.

Chicago, Ill.

Record of Cars Shipped

This double page form is designed especially for country shippers in keeping a complete record of each car of grain shipped from any station or to any firm. On each double page are the following column headings: Date Sold, Date Shipped, Car No., Initials, To Whom Sold, Destination, Grain, Grade Sold, Their Inspection, Discount, Amount Freight, Our Weight, Bushels, Destination Bushels, Over, Short, Price, Amount, Freight, Other Charges, Remarks.

The book is $9\frac{1}{2} \times 12$ inches, and contains 160 pages of ledger paper, 29 lines to each page, and has spaces for recording the foregoing facts regarding 2320 carloads. It is well bound in strong boards with karetol back and corners.

Order Form 385. Price, \$2.50.

GRAIN & FEED JOURNALS

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332 So. La Salle St.

Chicago, Ill.

Wanted and For Sale

The rate for advertisements in this department is 25 cents per type line each insertion

ELEVATORS FOR SALE

ILLINOIS—60,000 bu. elevator, fine location on Chicago and Alton branch, electric power, good equipment, sale subject to yearly lease. Doing good business. Address 79Y6, Grain & Feed Journals, Chicago.

ALWAYS HAVE GRAIN ELEVATORS for sale. If you are in the market write me fully as to amount you wish to invest and location desired. James M. Maguire, 6440 Minerva Ave., Chicago, Ill.

CENTRAL ILLINOIS—10,000 bus. elevator, \$6,500; built 1935; electrically equipped; new 20 ton scale; new electric hoist; good territory; doing from 100,000 bus. to 150,000 bus. annually; other interest. Address 79Y5, Grain & Feed Journals, Chicago.

SOUTHERN PENNSYLVANIA—One of the finest, most economically operated grain elevator and coal trestle in state for sale; excellent condition; built 1922; good thrifty community; good schools. \$20,000 half mortgage, if necessary might consider renting; wish to retire on account of health. P. O. Box 500, Harrisburg, Pa.

INDIANA—Elevator of 35,000 bus. cap. adjoining crib of 15,000 bus. cap.; located at Mel-lott, Indiana, 15 mi. northwest of Crawfordsville. Average volume grain handled last 5 years 140,000 to 200,000 bus. Located on N. Y. C. and St. L. R. R. Elevator in excellent condition. Howe Scale, 20½ ton; wonderful opportunity to build up volume feed business; reason for sale, death of partner. Address offers or request for further particulars to Berton E. Page, % O. B. Ratcliff, Covington, Ind.

ELEVATOR WANTED TO BUY OR LEASE

WANT TO BUY or lease elevator in N. W. Ohio; must be showing good business. Address 79Y2, Grain & Feed Journals, Chicago.

SITUATION WANTED

POSITION WANTED—By man with 25 years' experience grain and feed business, competent to take full charge of plant; best references. Add. 79Z5, Grain & Feed Journals, Chicago.

WANTED—Position as Manager of Elevator or Line of Elevators. Twenty years of experience in Grain, Seed and Side Lines, fully capable in every respect. Address 791X, Grain & Feed Journals, Chicago.

WHENEVER THERE is a real opportunity of interest to the grain trade, it is usually registered in the "Wanted—For Sale" columns of the Journal.

WANTED—Position as manager of elevator, line house preferred; several years' experience; reference from Banks and reliable grain men; steady employment at present, but wish change. Address 79Y8, Grain & Feed Journals, Chicago.

BUSINESS OPPORTUNITIES

EASTERN PENNSYLVANIA—Feed manufacturing plant modern throughout, thoroughly equipped, ideal shipping and transit facilities, going concern long established; ideal Eastern branch for Western Manufacturer; exceptional proposition. Add. 79Z4, Grain & Feed Journals, Chicago.

HELP WANTED INVESTMENT

WANTED—Middle aged man fully experienced in all phases of grain business, to manage one of largest grain elevators in Indiana; must be able to buy half or part interest. Address 79Z3, Grain & Feed Journals, Chicago.

SAMPLE ENVELOPES

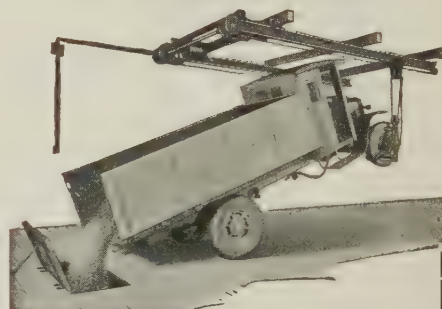
SAMPLE ENVELOPES—SPEAR SAFETY—for mailing samples of grain, feed and seed. Made of heavy kraft paper, strong and durable; size 4½x7 inches. Have limited supply to sell at \$2.35 per hundred, or 500, \$10.00 plus postage. Sample mailed on request. Grain & Feed Journals, 332 S. La Salle St., Chicago, Ill.

BUSINESS OPPORTUNITIES

WHATEVER your business may be, it will find a ready market if advertised in the "Business Opportunities" columns of GRAIN & FEED JOURNALS, Chicago. 6200 grain men look to these columns twice each month for real opportunities.

McMILLIN TRUCK DUMP

For Electrical Power



A dump that fills all requirements. Capacity from smallest wagon to largest truck. Dumps from any length vehicle into one dump door. By adding extension will dump into any number of doors. Operating connections at each door. Can be installed in almost any driveway. Installation simple and very reasonable. All parts of dump in plain view above driveway floor. Vehicles can be raised to any angle for dumping. Can be stopped and started as desired. Under complete control. All-steel power unit completely assembled. Substantially constructed. No delicate parts. **SPEEDY, SAFE and SIMPLE** in operation.

Address

L. J. McMILLIN

525 Board of Trade Bldg., Indianapolis, Indiana

A Christmas Present for Your Business

that will assist it to avoid the snares and pitfalls of new trade highways. Send it the convictions, suggestions and experiences of your brother grain dealers twice each month by subscribing to

Grain & Feed Journals Consolidated
332 So. La Salle St., Chicago, Ill.

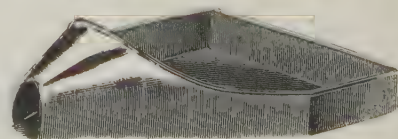
Gentlemen:—In order that I may profit by the experience of others in the grain trade, please send me the Grain & Feed Journals Consolidated twice each month. Enclosed find Two Dollars to pay for one year.

Name of Firm.....

Capacity of Elevator Post Office.....

.....bus. State.....

SAMPLE PANS



Formed by bending sheet aluminum, reinforced around top edge with copper wire. Strong, light, durable. The dull, non-reflecting surface of aluminum will not rust or tarnish; assists users to judge of the color and to detect impurities.

Grain Size, 2½x12x16½", \$2.00; Seed Size, 1½x9x11", \$1.65, at Chicago.

GRAIN & FEED JOURNALS

Consolidated

332 So. La Salle St., Chicago, Ill.

MACHINES FOR SALE

SHELLER & CLEANER—Truck dump, 12-in. Elevator buckets. W. W. Pearson, Reynolds, Ind.

CORN CUTTER & Grader—has motor—used very little. 79N12, Grain & Feed Jnrls., Chicago.

FOR SALE—One Roscoe Ajax Oat Huller; excel. cond. at a bargain. Box 269, Warsaw, Ind.

FEED MIXER—one ton—floor level feed—has motor—good as new. Write 79N14, Grain & Feed Journals, Chicago, Ill.

HAMMER MILL with 25-h.p. motor and all attachments. Priced to sell. Write 79N13, Grain & Feed Journals, Chicago, Ill.

FEED MIXER for sale, has motor, and a late machine. Need space. Will sacrifice. Write 79N15, Grain & Feed Journals, Chicago, Ill.

HAMMER GRINDER SCREENS—Fit all makes of grinders; any hole size; save 25 to 50%; quick shipment; guaranteed quality. York Foundry, Box GF, York, Neb.

FOR SALE—Second hand feed and elevator machinery; Tag-Heppenstall Moisture Meters; Bolinder Diesel Engines. Weaver Sales Corp., Corn Exchange, Minneapolis, Minn.

FOR SALE—One 12x30 Flaking Roll; one 36" Attrition Mill, direct connected two 50 hp. motors; one Gruendler Grinder direct connected 75 hp. motor; 100 lb. Richardson Automatic Scale; one 50 bu. N&M Meal Drier; one 50 bu. Cutler Meal Drier. Schreiber Mills, St. Joseph, Mo.

JAY BEE and Papec Hammer mills rebuilt; guaranteed as new from the factory; replacement parts for hammer mills; prompt, efficient service. Sedberry Grain Machinery Co., 3006 Graceland Ave., Indianapolis, Ind.

HAMMER MILL—Fairbanks-Morse complete with cyclone and automatic feed table, priced to sell. 10 h.p. and 25 h.p. Fairbanks-Morse oil engines. Large stock used motors, generators, air compressors, etc. Write us on your requirements. Rockford Electric Equipment Co., 728 South Wyman St., Rockford, Ill.

ELEVATOR MACHINERY—Razing 30,000 bu. Elevator; have Monarch 75 hp steam engine with Boiler, new McCormick-Deering 20 hp power unit, new Two 80 foot legs complete with 16" belt, 14" cups, Head pulley 48" D. 17" face, Barnard & Leas corn cleaner, Barnard & Leas Rec. sep., 70 foot manlift, Car puller, Air dump, 10 ton Howe scale, Steel spouting, Pulleys, clutches, boxing, etc.; this machinery all in No. 1 condition; 30,000 lb. hopper scale. S. G. Trent, White Cloud, Kans.

BARGAIN IF TAKEN AT ONCE—Some one is always looking for an elevator at a good grain point and reads these ads just like you're doing now, so if you wish to dispose of your present property, enlarge your present interests, or embark in the grain business, USE these columns to your best advantage just as others are doing. WE WILL assist you in the composition of copy free. We are in business to be of service to YOU. There is no wrong time to put an ad in the columns of the Journal. TRY IT.

SEEDS FOR SALE

WHEN YOU want field or grass seed, write us, and we will put you in communication with nearby dealers, who have what you seek. The service is free. Information Buro, Grain & Feed Journals, 332 S. La Salle St., Chicago, Ill.

MOTORS—GENERATORS**ELECTRICAL MACHINERY**

Large stock of motors and generators, A.C. and D.C., new and rebuilt, at attractive prices. Special bargains in hammermill motors, 25 to 100 H.P., 1200 to 3600 R.P.M. Write for stock list and prices. Expert repair service. V. M. NUSSBAUM & CO., Fort Wayne, Indiana.

ENGINE WANTED

WANTED—40 h.p. Gasoline engine. T. E. Hamman, Arcola, Ill.

ANY KIND, ANY SIZE, Any Price engine which is not in use, and which you wish to sell, will find many ready buyers if advertised in the "Engines For Sale" column of GRAIN & FEED JOURNALS. Try it.

RUBBER BELTING FOR SALE

THE WANTED-FOR SALE DEPARTMENT of GRAIN & FEED JOURNALS is a market place where buyer and seller, employer and employee, and those offering investments can meet to their mutual advantage and profit and it will pay every subscriber to give these columns a close study twice each month, because of the constantly changing variety of opportunities seeking your consideration.

Daily MARKET RECORD

A boon to the grain dealer who keeps a convenient, permanent record of daily market quotations for ready reference.

This book provides spaces for recording hourly quotations on Wheat, Corn, Oats, Rye, and Barley. Spaces for a week's markets on a sheet; sixty sheets in a book. Order Form CND 97-5, Price \$1, plus postage. Shipping Weight, 1 pound.

Grain & Feed Journals Consolidated

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RAT LUNCHES—Kills rats and mice without poison. Ready to use. Just lay them out. Endorsed by agricultural authorities. \$1 large package—\$3.50 a carton prepaid. Salesmen-Distributors wanted. Rat Lunches Co., Carroll, Ia.

Railroad Claim Books

require little of your time for filing, and contain spaces for all the necessary information in the order which assure prompt attention on the part of the claim agent. They increase and hasten your return by helping you to prove your claims and by helping the claim agent to justify payment.

A is for Loss of Weight in Transit Claims.
B—Loss in Market Value Due to Delay in Transit.

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E—Overcharge in Freight or Weight.

These claim blanks are printed on bond paper, bound in book form, each book containing 100 originals and 100 duplicates, a two-page index, instructions and summary showing just which claims have not been paid, and four sheets of carbon.

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Duplicating Scale Ticket Book

A labor-saving scale ticket book in which the buyer keeps a carbon copy of the entries made on every scale ticket issued, so altered or spurious tickets may be readily detected.

This book contains 100 leaves of white bond paper, machine perforated, bearing 800 tickets of form shown, inter-leaved with 100 blank manila sheets.

Well printed and bound in heavy board covers. Supplied with 4 sheets of No. 1 carbon paper, size 8½x11 ins. **Order Form 62. Price \$1.45, plus postage.** Weight 3 lbs.

Cash with order for twelve books earns 10% discount.

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Grain & Feed Journals Consolidated

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Load of _____			
Price _____	Per Cwt.	Gross _____	Lbs.
Price _____	Per Bu.	Tare _____	Lbs.
Driver _____	on. off.	Net _____	Lbs.
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(Three-Fourths Actual Size)

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In line between producing areas of the Middle West, and consumers in all directions, this market performs a complete, helpful service for both shippers and buyers.

Nebraska wheat is of excellent milling quality and is available through the Omaha market.

excellent railroad facilities and transit privileges.

modern terminal elevators for storage, cleaning, sacking, and transferring of all classes and grades of grains in straight or mixed cars.

private wires to all markets for quick action in market protection.

outstanding weighing and inspection service.

continuous market quotations over WAAW, the Omaha Grain Exchange Broadcasting Station.

To Satisfy Your Needs, Get in Touch with Any of These Members of the

OMAHA GRAIN EXCHANGE

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Bell-Trimble Grain Co.
James E. Bennett & Co.
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GRAIN & FEED JOURNALS

CONSOLIDATED

332 S. La Salle St., Chicago, Ill., U.S.A.
Charles S. Clark, Manager

A merger of
GRAIN DEALERS JOURNAL
Established 1898

AMERICAN ELEVATOR & GRAIN TRADE
Established 1882

THE GRAIN WORLD
Established 1928

PRICE CURRENT - GRAIN REPORTER
Established 1844

Published semi-monthly on the second and fourth Wednesdays of each month in the interests of better business methods for progressive wholesale dealers in grain, feed and field seeds.

SUBSCRIPTION RATES to United States, Canada and countries within the 8th Postal Zone, semi-monthly, one year, cash with order, \$2.00; single copy current issue, 25c.

THE ADVERTISING value of the Grain & Feed Journals Consolidated as a medium for reaching progressive grain, feed and field seed dealers and elevator operators is unquestioned.

Advertisements of meritorious grain elevator and feed grinding machinery and of responsible firms who seek to serve grain, feed and field seed dealers are solicited.

LETTERS on subjects of interest to those engaged in the grain, feed and field seed trades, news items, reports on crops, grain movements, new grain firms, new grain elevators, contemplated improvements and cars leaking grain in transit, are always welcome. Let us hear from you.

QUERIES for grain trade information not found in the Journal are invited. The service is free.

CHICAGO, ILL., DECEMBER 22, 1937

GRAIN SHIPPERS who fail to anticipate increased freight rates are very likely to lose money on some of their purchases if they delay shipment. The persistent demands of the rail carriers for increased revenue is very likely to gain recognition from the I.C.C.

THAT RAILROAD safety bill limiting trains to 70 car limits has been denounced by nearly every trade organization interested in shipping, but regardless of that fact, hearings are to be conducted early next year and it is hoped that the grain trade will send so many vigorous protests to their representatives in Congress, further hearings will be unnecessary.

WE HAVE published so many exposures of dishonest practices by traveling truckers, the wonder is cautious elevator operators will dare to have any dealings with them, even though they present cash on the counter and a certificate of good character from all the leading citizens of their town. If more elevator operators would confess the losses they have suffered from dealing with strange nomads, we believe it would require several pages in each number of the Journal to accommodate the story of their shortcomings.

SEED OATS bought on the sample tables may present a handsome appearance due to favorable conditions of growth, and yet be entirely lacking in the stamina of a pedigreed seed oat. Seeded next year under ordinary conditions, the sample bought oats quite likely will produce an inferior crop of undersized kernels, while the oats from a seedsman of repute can be depended upon to reproduce itself if given a fair chance. Elevator companies in Northwest who are putting out "selected" but worthless Gopher oats on the plea it is the best available should look farther. Country elevators in Michigan, for example, have for sale high grade Swedish oats in carload lots. By putting out inferior seed the elevator companies are perpetuating a condition that has led to a dull and dragging market for oats at 27 cents at Minneapolis, while the Winnipeg future commands 45 cents per bushel.

THE A. A. A. never overlooks an opportunity to bribe farmers to get under the wings of the bureaucratic dictatorship. The latest is the Christmas present announcement of Dec. 21 that sugar beet growers will be paid benefits for adding superphosphate fertilizer to one-third of their acreage. In other words, a grower is to be paid for doing something a good farmer would do anyway to increase his crop and realize more cash.

AFTER announcing a surplus of 192,000 tons of wheat the Argentine government immediately issued a decree forbidding exports. Such contradictory action is explained as a government attempt to break the hold of bull speculators who had elevated the price out of sight, until bakers decided to raise the price of bread. The embargo on exports has since been removed, but the action remains an example of what may be expected when governments undertake to manipulate market prices.

UNDER the Commodity Exchange Act the Administration has full power to place the maximum open holding of any person at so low a limit that trading in futures will be paralyzed. The law confers upon three persons whose activities in life have been devoid of experience in exchange future trading the duty of fixing a limit. Altho the ax is not expected to fall until next month, traders already are preparing for the shock by keeping lines down to a point where they would not be forced to sell. In line with this trend the open interest in Chicago wheat futures has decreased from 109,877,000 bus. Nov. 3 to about 98,000,000 Dec. 22. A year ago the open interest increased from 93,758,000 bus. Dec. 15 to 101,763,000 bus. Dec. 31, when no threat hung over the traders.

THE COLORADO reader who inquires in "Asked-Answered" this number how he stands after buying grain without knowing of a prior mortgage is fortunate in having a law with teeth in it for farmers attempting sharp practice. While most states will allow judgment for the money so paid, the Colorado statute provides for judgment for double the value of the grain when sold without apprising the buyer of the mortgage. Still better, as a deterrent, the statute declares such a sale to constitute larceny, a felonious taking of property, punishable under the criminal laws. In states not having so drastic a law, the best the grain buyer can do is to have sellers endorse a check rubber stamped to the effect there is no mortgage or other lien on the grain, signing which makes the seller liable to prosecution for obtaining money by false pretences.

Christmas comes again with its many kindly courtesies and thoughtful considerations for those we contact, awakening in the hearts of all a brotherly regard and an earnest wish for health, prosperity, and happiness for others. The entire staff of Grain & Feed Journals wishes for the grain trade a bigger and better business, and freedom from the many burdens with which it is oppressed. May our many friends and patrons have a most delightful Christmas Holiday.

The Vicious Circle

Rail carriers having been coerced into granting excessive and unwarranted advances in wages to union workers naturally the carriers now demand similar increases in their revenue so they can meet the enlarged payrolls and still have something to pay other expenses. Naturally, everybody will be demanding more revenue until the first recipients of the new advances will have no more buying power than they had before. Even now, the telegraph companies have joined in a demand for an increase of 15% in their rates.

The sooner the grain merchants of the land awake to their increasing cost of doing business, the sooner will they be able to show a profit at the end of the year. Everybody wants more pay in order that they can meet increased costs of living.

When advances are made all along the line, the unions and the sit down strikers will have just about the same buying power they had before, so all the strikes and demands in the interest of the selfish workers who struck first will have been for naught.

There is no doubt that more increases will be granted the rail carriers. Grain shippers who use the rails will soon learn that the increases will wipe out much of their present profits; hence, those who fail to work on a larger margin are very likely to be found holding the bag for the elusive snipes.

Why the Ever Normal Granary Will Not Help Farmers

The Ever Normal Granary program of Secretary Wallace is fundamentally a repetition of the program of the Federal Farm Board, and like that ill-starred experiment in government control of distribution, it is unsound in theory and mechanically imperfect. The Farm Board fiasco in grain alone netted a direct loss of more than \$344,000,000 to American taxpayers and reduced the price of wheat to the lowest figure in a century. The present program carries the seeds of an even greater failure.

The theory of lifting prices by segregating the surplus and putting it under government control is unsound, as was shown by a price decline in wheat that carried it to well under 50 cents a bushel when tried by the Federal Farm Board with a half billion dollars of Government money at its command. A surplus is a surplus, and it is more effective as a market depressant when it is under the control of a single individual or a small board or commission than when it is distributed among hundreds of thousands of holders.

In the mechanical field the plan is equally unsound. Grain storage is a business in itself, and it can be safely and profitably carried on only by a trained staff, equipped with special machinery. It cannot be safely stored simply by being put into a bin or a pit. It must be handled, aired and guarded against weevil, firing and the many causes that bring deterioration. Like every expensive plant, elevator storage must be operated at capacity or the overhead cost becomes prohibitive. The handling of the crop of a single farm and then long months of idleness means an overhead cost too heavy to be borne.

As to relative probability of profit and loss between prompt marketing of wheat and temporary farm storage, a study of farm storage of wheat made by the Food Research Institute of Stanford University concludes:

"These data indicate that under a policy of storing the same amount of wheat each year, even farm storage, with its relatively low costs, may be expected to prove unprofitable for both No. 2 Hard Winter and No. 1 Northern Spring wheat."

The motive back of the "Ever Normal Granary" idea is a method to control agricultural production and the market flow of farm crops. It is a part of a farm regimentation program by which Washington proposes to control American agriculture.

We feel certain that 99% of the farmers who read the new farm control bill designed, of course, "in the interest of farmers," will vigorously oppose its enactment into law. Among other things, this latest communistic proposal of the Washington bureaucrats provides that "farmers engaged in the production of wheat shall furnish proof of their acreage, yield, storage and marketing in the form of records prescribed by the secretary of agriculture, and anyone failing to furnish such proof shall be guilty of a misdemeanor and subject to a fine of \$100.00." The bill also gives the Secretary of Agriculture unlimited power of declaring guilty farmers HE considers guilty of "unfair agricultural practices" and requires the U. S. district attorney to punish the offender. If the farm bills do not provide for the complete regimentation of agriculture to the complete delight of the Washington bureaucrats, then the bill has been outrageously emasculated without the knowledge of its promoters.

Buyers Want Fees for Collecting Liens

From the pioneer days of the country grain business the tricky tenant and the dishonest farmer have been a real bugaboo for the grain buyer. Doubtless every country elevator operator has lost heavily through the trickery of tenants and the connivance of landlords. The South Dakota Elevator Ass'n, whose annual meeting is reported elsewhere in this number, among their excellent resolutions declared the organization to be in favor of a law authorizing grain buyers to charge a collection fee of 1% of any amounts due on mortgaged grain sold to their elevators.

While this might help to reduce elevator losses, we doubt that it would correct the swindling practices of farmers. Some states have laws requiring all liens and chattel mortgages to be recorded with the county recorder, and the recorder is required to keep all liens on personal property recorded in a separate indexed book which shall be open to public inspection.

Some state laws also provide that sellers of personal property covered by recorded lien must notify buyer of mortgage or be held liable for twice the selling price. Mortgagors are also held to be guilty of obtaining money under false pretences and liable to fine and imprisonment. The amendments of many of the state lien laws relating to fraud and swindling practices would surely help to protect established buyers of farm products in the open markets from the swindling practices of dishonest tricksters.

Effects of Processing Taxes

A study of the effects of processing taxes has been made by the Bureau of Agricultural Economics and issued by the Bureau of Internal Revenue of the Treasury Department, from which conclusions may be drawn of great value to Congressmen in drafting bills for farm aid.

It was concluded by the Bureau that "there is little or no evidence to indicate that the processors of any of the commodities upon which the processing taxes were levied bore any appreciable proportion of these taxes, with the possible exception of certain corn and tobacco products. In most cases," it was pointed out, "the evidence seems to be conclusive that the tax was passed on to consumers in the form of higher prices, or was taken from the price which otherwise would have been paid for the raw material, or was shifted partly in each of these directions."

This is a damaging admission that buyers had to lower the price paid for the farmers' product in order to pay processing taxes. To that extent the farm aid taxation defeated itself. As to the tax on hogs, particularly, the Bureau found "the prices received by producers for hogs were lower by the amount of the tax than they would have been if the tax had not been in effect."

It was found by the Bureau that the reduced domestic consumption of taxed commodities affected slightly the gross

income of the processors by reducing their volume of business.

Altho distributors did not absorb any appreciable part of the processing taxes they did lose thru a reduced volume of business.

The reduction in the volume of business due to processing taxes is slight; but a reduction in volume due to marketing quotas as provided in the pending farm bill will loom exceedingly large in the entire business world after Congress takes steps to cut down production. Just as the pig killing by the Department of Agriculture threw thousands of stock yards workers out of employment so will the cotton reduction control throw hundreds of thousands of laborers in the cotton fields of the South on the relief rolls.

Protein in Canada's Wheat Changes Little

Substantial rainfall in Manitoba resulted in a large current crop of hard red spring wheat, report W. F. Geddes and W. J. Eva, of the Canadian Board of Grain Commissioners' research laboratory, in their 11th annual protein survey of western Canadian hard red spring wheat.

The mean protein content of the samples analyzed was only 13.6%, compared with 15.2% for last year. In Saskatchewan the drouth areas covered all the normal high protein districts and extended much further to the north than in previous years, so that areas which normally produce wheat of 12% to 13% in protein content yielded samples which tested considerably higher. Thus, altho the bulk of the Saskatchewan crop was produced in the northern districts, the mean value of 14.9% recorded for this province is only .2% lower than that found for the previous year, which, it will be recalled, was the highest on record.

For Alberta the mean protein content is the same as last year. Almost one-third of the total 1937 hard red spring wheat crop originated in Manitoba and the general mean for western Canada in 1937 is therefore greatly influenced by the markedly lower protein content for this province; the general mean for the Prairie Provinces is 14.2% as compared with 14.9% in 1936.

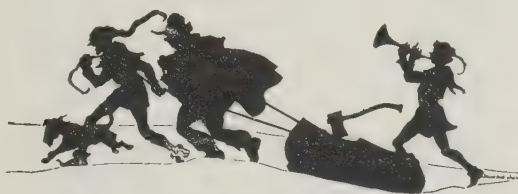
In general, the mean protein contents of the various grades decrease with grade. Attention should be directed to the Garnet grades, each of which is approximately 1.5% higher in protein content this year than last. The uniformity in protein content of the various grades, as indicated by the coefficients of variability, is greater for the present year, particularly so in the Garnet grades, the figures for which are 8.87% and 11.55% for Nos. 1 and 2 C. W. Garnet, respectively, as compared with 12.74% and 14.83% for these grades last year.

From Abroad

Buenos Aires, Argentina—The 1936-37 Argentine corn crop is estimated officially at 9,134,730 toneladas (359,338,302 bus.) harvested from 4,827,530 hectares (11,923,999 acres).

New South Wales—Wheat deliveries to elevators in New South Wales have been heavy and the quality of the wheat is generally excellent, reports Broomhall. Storms have delayed the movement of wheat in other states. Visible supply has increased 12,000,000 bus.

Bristol, England—Messrs. Hosegood Industries, Ltd., have announced proposed expenditures of £500,000 (\$2,500,000) for erection here of the largest grain elevator and flour mill in England. A thousand reinforced concrete piles will support the two structures, and the mill building will have its machinery at the top and its warehouse at the bottom. Construction will be of concrete.—American Consulate.



The Happiness Makers

Blessed are the Happiness-Makers—
For theirs is a kingdom strangely bright,
Replete with wonder and insight,
With wings and song and star-light.

Blessed are the Happiness-Makers—
For them,—the imprint of the Infinite,
High altar-candles they have lit,
A manger with a Baby in it.

Myrtle Dean Clark.

Protein Over-rated

I grant you that the protein content tells you in a general way the approximate strength of the flour. But I have seen a good many flours of higher protein content that were weaker than others of lower protein content. Furthermore, protein content does not suggest anything about mixing time or fermentation requirements. Protein content should never have been brought to the attention of the bakers because it is far too general an indication.

It is unfortunate that bakers have been used to buying on ash and protein content and it may take a long time to get away from this practice. When you are making up your wheat blends today, you are paying entirely too much attention to protein and you are not paying enough attention to baking values and uniform mixing and fermentation requirements.—Arthur Hartkopf, in address to mill managers.

Soybean Products Trade Marks Increase

Some indication of the spreading of soybeans into the realm of human foods quite apart from the soybean oil that has become common in cooking and salad oils, is the filing of trade mark No. 396,580 by the Rural Educational Ass'n, Madison College, Tenn. The trade mark is "Soyburger Loaf," and a picture that looks much like meat loaf. It is for canned "protein, meat-like food, containing no animal products, and used as a source of protein, like meat."

Soybean flour, of course, is nothing new. Superior Brand, Inc., Jersey City, N. J., has filed trade mark 388,296 for soy bean flour for baking purposes, naming it "Soyabene Flour."

Even coffee does not escape the soybean touch. "Soykee" is trade mark No. 396,251, filed by the Battle Creek Food Co., for a coffee substitute processed from soy beans.

Soybeans fit right in the middle of a health food program. Trade mark Nos. 390,435, and 390,437, "Health House," by the Battle Creek Dietetic Supply Co., cover a multitude of health products, among them soy flakes described as "a low starch, high protein product particularly adapted for diabetics and reducing diets." Presumably the "vegetable meat, to be used as a meat substitute," that is included under these trade marks, is composed of soybeans, at least in part.

Crop Control Decreases Consumption

On his return from a European trip recently Fred Uhlmann, of Chicago, said import restrictions and other artificial obstructions had the effect of reducing consumption. He found it impossible to buy an imported cigar anywhere in Italy, regardless of price. "This naturally hurts Cuba," he said, "and in turn makes her a less attractive customer for Italian goods as international trade works in a triangular way."

"In many countries it was almost impossible to obtain a good cup of coffee. While this may have helped the substitute of chicory, the coffee was so poor it decreased its consumption. During all this time Brazil, which had destroyed part of her crop, could have found good customers abroad had she been willing to pay more attention to the selling end than to the price level."

"Bread in Germany is extremely poor as there are lots of mixtures of other less palatable cereals. This is the case even in France, where choice bread can still be had in the finest hotels and in households where little attention is given to the cost. But there is a second and even a third class of bread being produced which is of such quality that the per capita consumption of bread in France is being greatly reduced."

"Even in the United States at present bread consumption is on the decrease."

"At the present time we are hampered by the discriminating tariff in England of about 6c a bushel, compared with her colonies."

Seed Treatment Improves Yield of Early-Planted Corn

Seed-corn disinfectants have been proving their worth by increasing the yields of early-planted corn an average of 3 to 5 per cent over a period of years, according to yield determinations made on numerous test plots in Illinois. In 1935 the benefit from seed treatment was especially good because the weather was unusually cold and wet during most of May. With New Semesan Jr. being used for the seed treatment, yields of grain were increased an average of 5.7 per cent in three tests in the northern section of Illinois; 4.4 per cent in three tests in the north-central section; and 12.4 per cent in two tests in the south-central section of the state.

Experiments on the effect of storing treated seed for different lengths of time before planting have been continued by the Ill. Exp. Station. High-grade yellow-dent seed was used in each test. The 1933 seed was divided into three lots, seed from the same ears being represented equally in each lot. One lot was treated in May, 1934; one lot in May, 1935; and the other lot left untreated. Storage was in loose muslin bags buried in a bushel of other shelled corn similarly treated, all held in an ordinary canvas grain sack tied shut.

When storage was in a dry building, seed treatment applied early in the season to high-grade seed caused no appreciable injury to germination or yield of grain even though the treated seed was stored for as long as a year before planting. Storing the seed in an open shed appeared to cause slight injury even to untreated seed, but the effect was much more pronounced in treated seed.

A Dictator for Farmers

The House and Senate drafts of the administration's farm bill, having been passed, are now ready for a conference committee composed of members from both houses.

Chairman Smith of the Senate agricultural committee has announced that House and Senate conferees will delay formal deliberation on the compromise measure until after the regular session of Congress convenes Jan. 3.

Both the House and Senate bills clothe Sec'y of Agriculture Henry A. Wallace with dictatorial powers for dealing with farm production far beyond those he possessed under last year's Soil Conservation Act. Both bills authorize him to establish annual marketing quotas for wheat, corn, cotton, rice and tobacco, to force observance of these quotas thru benefit-paying voluntary contracts. Both bills agree on the administration's principle that when reserves of these commodities become too large, and the consent of two-thirds of the producers involved is obtained thru a referendum vote, compulsory marketing controls can be effected, and penalty taxes can be levied on any further sales. Beyond these features the two bills have little in common. The principal differences are:

Wheat—Senate: Voluntary acreage control contracts (if approved by two-thirds of voting growers) with mandatory marketing quotas when supplies are more than 10% above normal; soil conservation and parity payments for co-operators; nonco-operators subject to loss of these grants and to a tax of 50% of parity prices. House: Farmer-approved marketing quotas when indicated yield and carry-over total more than 25% above normal; acreage allotments; loans of unspecified amounts for storage of surplus; (ever-normal granary) penalty of 15c a bu for sale of nonco-operators' excess.

Corn—Senate: Same as for wheat. House: Farmer-approved marketing quotas when indicated yield and carryover total more than 15% above normal; penalty tax of 15c a bu for sale of above-quota production; acreage allotments; loans of from 55 to 75% of parity for storage of excess production.

The House Bill, vague in a number of details rests on voluntary control, and authorizes moderate penalties when reserves have grown beyond fairly large supplies. The Senate bill demands compulsory control, and authorizes literally confiscatory penalty taxes on recalcitrant farmers when reserves have reached much lower levels. The differences between the bills in the definition of a normal supply, and the point at which marketing quotas should be invoked is shown in the following table:

	Wheat	
	Normal Supply	Marketing Quotas
	bus	bus
Senate bill.....	770,000,000	847,000,000
House bill.....	840,000,000	1,050,000,000
	Corn	
Senate bill.....	2,323,000,000	2,555,000,000
House bill.....	2,486,000,000	2,859,000,000

These differences leave with administration leaders their biggest job in getting Congress to pass a farm bill, No. 1 "must" legislation on President Roosevelt's program for the special session. Two certainties appear obvious. One is that the eventual compromise will carry costs far in excess of the \$500,000,000 appropriated for the Soil Conservation Act. The other is that the compromise, if finally passed, will not be ready in time to be used on 1938 grain crops.

Both the House and Senate bills have had a rocky time in their respective houses. For nearly a month debate waged fiercely as administration leaders marshaled forces, and side tracked amendments. More than once the bills were threatened with shelving when recalcitrant congressmen moved to return them to committees. Minnesota's August Andresen gave House administration leaders worrisome moments on such a move when he was joined by a group of Southern representatives. The move was beaten by a narrow margin of nine votes, and a few moments later the House passed the bill with a vote of 267 to 130.

In the Senate a motion by Utah's Senator William H. King to recommit the bill to committee was beaten just before the final 59 to 29 vote that passed the Senate measure.

Altho every effort was made by administration leaders to head off amendments, an amendment by Wisconsin's Gerald Boileau to outlaw benefit payments to farmers who hoped to use diverted land for feeding dairy cattle slipped into the House measure before final passage. In debate the impassioned Wisconsin representative said that failure to include the protective amendment would cause 40,000,000 acres or more of land normally devoted to wheat, cotton, corn, rice, and tobacco to be devoted to dairying. "I don't object to expansion of the dairy industry," he declared, "but I do object to competition when it is subsidized by the federal government."

Other amendments to the House bill included limiting of benefit payments to any one person to \$7,500, deducting 25% of the

total when benefit payments amounted to \$1,000 or more; another by Michigan's Claire E. Hoffman permitting farmers to appeal decisions on allotments and quotas to any court of record instead of to federal district courts only; another by Kansas' Edward H. Rees to exempt silage corn from marketing quotas in order to help dairying.

In the Senate Oregon's Senator Charles McNary, supported by Wisconsin's La Follette and Duffy and New York's Copeland, pushed thru a dairy amendment identical with the Boileau amendment in the House. Also adopted was Washington's Senator Lewis B. Schwellenbach's amendment setting up a \$100,000,000 crop insurance corporation for protection of wheat growers.

Amendments defeated in the Senate included an effort of Senator Joseph C. O'Mahoney, Wyoming, to ease restrictions on farmers by making marketing quotas inoperative until the supply exceeds domestic and export demand by 15%; an amendment by Michigan's Senator Arthur H. Vandenberg to limit the yearly cost of the bill to \$500,000,000; a parity price scheme by Oklahoma's Senator Josh Lee to fix domestic marketing quotas but allow unlimited acreage for exportable crops.

A proposal by Senator Ellison D. Smith, South Carolina, that the government be directed to purchase 6,000,000 bales of cotton at the prevailing market until the price should reach 12c a pound was laughed and voted to defeat when Senator Charles L. McNary of Oregon offered an amendment to the Smith amendment directing the government to buy 30,000,000 bushels of Pacific northwest white wheat and hold it for a "parity" price.

The big fight in the Senate came over Senator McNary's proposal to limit operation of the bill to 1940, so that the next administration might conveniently change it should it prove unsatisfactory. This proposal, too, was finally voted down.

In both the House and the Senate the cry, "farm dictatorship," rang thru the debates. Severe condemnation of the House measure went with the minority report of the House agricultural committee when it said "that the proposed program will bring about a complete dislocation of agriculture in the United States, the increase in foreign production of competitive farm products and the total disappearance of our export market."

Representative Hoffman, Michigan, expressed something of this view when he offered an amendment, later defeated, to modify the referendum required by the terms of the bill to impose compulsory control marketing quotas so that no quota should become effective unless approved by two-thirds of the farmers who would be subject to it.

"In some instances," he said, "the manner in which other referenda have been conducted has been an invitation to deception, coercion and fraud. Elections are conducted under this section by those who presumably favor the establishment of a quota. Their jobs depend upon the establishment of a quota. They are, therefore, personally and directly interested in the adoption of a quota."

Senator Royal S. Copeland, of New York, characterized the production quotas of the measure as unconstitutional. Senator Borah, of Idaho, went farther. He declared the whole bill is unconstitutional.

Senator Walter F. George, of Georgia, considered the bill class legislation. "The bill might be described as a device for distribution of public money. I have no faith whatever in the theory that we are even approaching a sound solution of the agricultural problem by merely restricting production to get a better price."

During the course of debate Senator Richard B. Russell, Jr., of Georgia, told the Senate that the current annual cost of the soil conservation administration totals the "staggering sum" of \$44,000,000, or 10% of the payments made to farmers under the Soil Conservation Act. He pointed out that the current farm bill placed no limit on administrative expense. "The secretary (of agriculture)," he said, "has a free reign to spend as much as he likes."

Features of the Senate bill which Wallace admitted tended toward Fascism are the compulsory marketing quotas for restriction of production, and the schedule of price pegging loans and parity subsidies at levels established according to volume of production.

Improved Spring Suspension for Dockage Tester

The long springs that support the lower sieve carriage of the Federal dockage tester have been replaced on all Federal dockage testers owned by the Government Grain Division with shorter ones to improve the sieving action with respect to rescreening and other operations performed at that point. The stiffening effect of the shorter springs smooths out the motion of the sieves and tends to make a better separation of such particles as mustard seed, which should properly pass thru the round hole sieve during the rescreening operation.

Parts for making this change in method of suspending the lower sieve carriage for Federal dockage testers owned by inspectors and members of the grain trade can be obtained at a cost of four dollars per machine. Any district office of Federal Grain Supervision will advise interested parties where the parts can be obtained and how to install them.

Cooperation of All Organizations Essential to Promotion of Common Interests

BY OTTO F. BAST, President Grain & Feed Dealers Nat'l Ass'n.

The grain trade of the United States is making real progress toward unity in its public relations work. National, regional and state associations are showing an inclination to work together in presenting information that will offset much of the misunderstanding that has grown up about the grain trade.

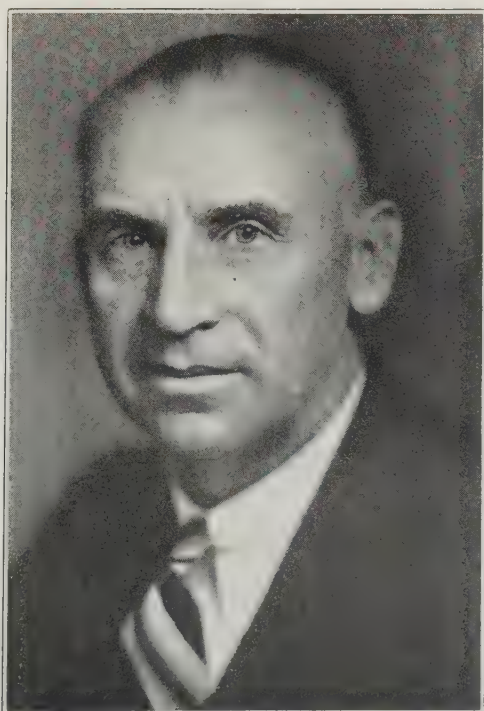
Admittedly, there is still much to be desired in our organization, but we think that the coming year will find the grain and feed trades closer to unity in their presentation of convincing evidence. At this time, 23 regional and state associations are affiliated through our Grain and Feed Dealers National Association. Secretaries of these groups have their own organization for exchange of information, so a more uniform and comprehensive program is possible than ever before.

More consideration must be given to proposed national legislation. We must offer the experience of men in the trade to congressmen who consider legislation that touches grain and feed marketing. We do not assume to speak as a National Association on farm legislation *per se*, but we feel we have the duty to express an opinion on farm legislation that includes phases of grain marketing. We have found that the many Congressmen who want facts first and politics second, welcome such comment from the trade.

Naturally, perhaps, those interests of our trade closest to agriculture have the most weight in legislative matters. That is why the National Association has its main strength in the thousands of country grain and feed dealers of forty states. By weight of numbers and by their close contact with farmers, the opinions and experiences of these country dealers are important. There is a surprising unanimity of opinion among these country dealers on the main problems of grain marketing in the United States. They are hedgers of grain, and for that reason intensely interested in proposals that concern futures trading in the terminal markets. Proposed changes in federal grades, or methods of inspection—matters in which the National Association has concerned itself repeatedly in recent years, are matters of direct importance to the country buyer.

In our National Association we have, for many years, felt that there should be a closer working arrangement between our group and the groups representing processors and feed manufacturers, as well as large groups of cooperatives. There are points at which selfish interests will attempt to drive a wedge between some of these organizations, but they have so many common problems that it seems inexcusable that they do not ignore these points of difference and meet occasionally to agree upon certain fundamental matters where they can work together.

There are national organizations for millers, feed manufacturers, feed distributors, grain and feed dealers, and two national groups of cooperative elevators. At some points their policies or interests differ; there are many more points where their interests are the same, and where their agreement would mean much in the matter of legislation and public information. The Grain and Feed Dealers National Ass'n represents the largest number of units and the widest interests geographically, so our National Association gladly offers its services in the formation of a contact group between these various national organizations. If officers



Otto F. Bast, Minneapolis, President, Grain & Feed Dealers National Ass'n

of these organizations will signify a willingness, we would be glad to call a preliminary conference.

There are many misunderstandings in the public mind about grain and feed marketing and processing. These misunderstandings provide fuel for the fire of political agitators. Honest information is necessary to offset prejudice. If our trade has weaknesses that make it susceptible to attack, then it is our duty to discover these weaknesses and to make suggestions for improvement. We will fail if we start with the assumption that everything about our trade is perfect and beyond improvement. But we will also fail if we are unable to capitalize on the admitted virtues of the marketing and processing system that is now in use. We have much that needs to be told as a whole grain story, and not as the narrower viewpoint of one element of the trade.

Safety in the Grain Elevator

BY H. L. KENNICOTT

Recently the operator of a line of grain elevators received the following safety recommendations in a personal letter from the engineer who had been sent by the Lumbermen's Mutual Casualty Company to inspect the houses. Other grain elevator operators may benefit by these practical and timely suggestions:

Cleaning choke-ups: Many fingers and hands have been lost while cleaning choke-ups in grain elevators, due entirely to the fact that the men put their hands into the leg casing to relieve the congestion. When it is relieved the elevator starts up with a jerk and may take off fingers or the entire hand. The leg should be shut down while removing the grain. If not, a stick should be used to relieve the choke instead of the hand. Chokes have to be cleaned up in a hurry, which is probably the reason why many men use their hands instead of hunting something else to stick into the leg casing or boot.

Nails in boards: When cars of grain are unloaded, the grain door boards are often pried off and allowed to fall on the car track with the nails sticking up. Frequently with snow on the ground these boards are covered, and it is almost impossible to avoid stepping on them. All nails should be removed from loose boards or the boards burned.

Jumping off trucks: Instruct workmen not to jump off of trucks, but to climb down. Many a man has been injured in jumping off a truck when his foot landed on a piece of coal or cob or some other object on the floor, which he did not see, resulting in a broken ankle or leg. Jumping at any time is a dangerous practice.

Climbing on trucks: In unloading trucks of grain it is common practice while the trucks are still on the hoist to climb up on to the truck in order to sweep or remove the grain from the truck bottom. With the truck hoisted at an angle, this is a hazardous practice and should not be allowed. A rake, a hoe or a long handled device of similar type should be used, and the men should not be permitted to climb onto the elevated trucks.

Holes in floors: Many grain elevators have holes in the floors to facilitate the spouting of grain from various bins or to expedite the dumping of bagged grain. Many bones have been broken by men stepping into floor holes that were left uncovered.

Unauthorized use of truck hoist: In some grain elevators farmers are permitted to drive up with a load of grain, fasten the sling on the front wheels of the truck, and start the hoist. This is a dangerous practice, and should not be permitted. If necessary, a separate switch can be maintained inside the office, so that the operating switch cannot be turned on.

Material on stairs: Oil cans, wrenches, and other material should not be left on the stairs. Stairs are not shelves and should not be used for that purpose. Many men have been injured by stepping on objects that have been left on the stairs.

Foot brake on manlift: If the foot brakes of your manlift are not holding, they should be repaired and relined. In some grain elevators it is a common practice to use a pin in a hole, so that in case the foot brake does not hold the pin will keep the elevator from going up.

Frozen hands and feet: It is necessary that the managers of the elevators see that men who are required to work outside are properly dressed for cold weather, and also that they are not allowed to be exposed for too long a time.

First-aid: Every grain elevator should be equipped with proper first aid material, and the manager should insist that every cut or scratch have immediate attention. Infection or blood poisoning is caused by neglect, and in almost every instance of blood poison, it has been found upon investigation that the man did not come in for treatment until several days after the cut or scratch. The big cuts are generally sent to the doctor, where they are properly treated, but the minor cuts and scratches are the kind that are too often neglected. Every manager should check up on his first-aid supplies, see that he has a good anti-septic and plenty of gauze and adhesive plaster, and insist that they be used.

Observance of the foregoing rules will help to prevent accidents and reduce suffering and loss of time.

Rio de Janeiro, Brazil—By a sweeping decree reducing the export tax from 45 milreis to 12 milreis per bag, and eliminating the "official quota" on export bills, President Getulio Vargas, authoritarian dictator, has placed Brazil's coffee industry back on a relatively "free" basis for the first time in 31 years.

Swift & Company's Soy Bean Plant at Champaign

A long stride forward for the rapidly growing soy bean industry has come with the completion of a new quarter-million dollar Swift & Company soy bean mill at Champaign, Ill. The mill's entire production of soy bean oil will be shipped to the company's Chicago refinery, which will immediately send it into consumption in the form of vegetable oil products. The plant's second product, soy bean meal, will be sold as a feed for livestock.

Accordingly, the Swift mill will become a potent factor in the soy bean market and will give Champaign an elevator of large capacity.

The project marks no radical change in policy on the part of Swift & Company, although it is that organization's first soy bean unit. Swift's refinery activities are concerned with edible domestic vegetable oils and animal fats, of which it has been a producer and refiner for more than forty years. The company has long included studies of the soy bean in its laboratory experiments along with cotton seed, peanuts, and other sources of edible oil.

Soy beans in recent years have become firmly established as a rotation crop and growing interest in the magic plant has resulted in greatly increased production in central Illinois. At Champaign the University of Illinois boasts several of the foremost soy bean experts. One of these, Dr. W. L. Burlison, head of the university's agronomy department, was largely responsible for development of the "Illini," a soy bean considered particularly well adapted to soil and growing conditions in central Illinois.

Champaign enjoys a well-merited position of leadership in the soy bean's American advance, and satisfactory transportation facilities were an important factor favoring the university cities.

Swift & Company has for many years enjoyed a steadily growing consumer acceptance of its vegetable oil shortenings, salad oils, and other vegetable oil products, according to O. E. Jones, vice-president in charge of the more than eighty cotton gins, oil mills, and refineries now operated by the Swift organization.

"Success in the perishable food industry requires constant attention to advancements of science, improvements in distribution methods, and changes of consumer habits," Mr. Jones said. "It is a highly competitive industry, its profit margin is narrow, it returns most of the wholesale dollar to the farm producer, and it sells its perishable products for what the market affords."

Refinery products, shortening in particular, which have heretofore been produced and sold principally in the south have recently been introduced in the north, where they have won wide popularity. The soy bean mill will become a northern source of raw materials for northern manufacture of these products.

Nelson P. Noble, a veteran oil mill expert in the refinery division of Swift & Company, is manager of the mill.

This new soy bean plant of Swift & Company, which was finished in time to produce oil and meal from this year's crop, consists of the ele-



Ralph Wilson, Superintendent, and Nelson P. Noble, Manager, of Swift & Company's Soybean Plant at Champaign, Ill.

vator, boiler plant, extraction plant, meal grinding and bagging plant, a meal storage building and an office building.

The elevator, a reinforced concrete and structural steel building, has a capacity of approximately 350,000 bushels, consisting of six cylindrical bins 24' 0" diameter, two interspace bins and four outerspace bins, which are 106' 0" high, together with several workhouse bins.

A system for recording the temperature of the grain stored in these tanks, operated on the thermocouple principle, known as the Zeleny Thermometer System, has been included in this very modern soybean storage.

This system employs the use of thermocouples at intervals thru the center of the bin for its entire depth; and readings are taken on a central instrument located in a dustproof cabinet, together with the reading instrument, which is located on the side wall of the gallery at the extreme end of the building.

Directly under this dustproof cabinet is a folding or drop table which when opened extends 2½ ft. from the wall. When closed and the instrument is not in use the entire unit does not project over 8½ in. from the wall.

In this particular group of tanks the instrument is so conveniently situated that if in the future another group of tanks be added to this storage, and a thermometer system employed in the new group, the wires could be run over to the present instrument and the entire group read from that one point.

A structural steel trackshed covering two railroad tracks adjacent to the plant is provided for receiving beans by car into two receiving pits, one for each track, where beans are unloaded by means of Clark automatic shovels. A double-drum car puller is provided for spotting the cars onto the receiving pits and a Hutchinson grain door remover is used to remove the inner car doors.



Spouting Arrangement at Elevator Leg Discharges at Top of Workhouse.

The car puller, door remover and power shovels were supplied by J. B. Ehrsam & Sons Mfg. Co., which also furnished the elevator head and boot pulleys, belt conveying machinery and spouting. The Redler Conveyor has a 9 in. casing and is 80 ft. 9 in. high, with a loop boot driven by a gear motor.

Beans from the receiving pits are conveyed to the workhouse by means of a 30" rubber belt conveyor, where they are elevated to the top of the workhouse and distributed by spouting to the workhouse bins or placed on a 24" belt conveyor which is provided with a two-pulley automatic tripper for controlling the discharge of beans to the various storage bins.

Underneath the storage bins are two 24" rubber belt conveyors for receiving beans from the storage bins. These conveyors discharge to the elevator legs, where the beans are elevated and may be placed in the various bins for cleaning, drying or into bins to serve the processing plant.

Two elevator legs are provided in the workhouse, each having a capacity of 6,000 bus. per hour, and the spouting is arranged so that they are used for the various operations of the elevator.

A bean cleaner is located on the first floor of the workhouse and is arranged to receive beans from three of the workhouse bins and to discharge to the elevator legs for further handling.

The drying equipment consists of a Randolph Zig Zag Oil Electric grain drier. This drier is for the drying of soy beans for storage and it is installed in one part of the head house with a garner above the drier to receive damp beans before going to the drier. After the beans have passed through the drier, they immediately enter the cooler, and after they are properly cooled they are dropped to the bin beneath.

The furnace is located outside of the building, in a specially constructed furnace room equipped with an oil burner. The temperature control is automatically controlled with the Randolph Double Automatic Electrical Control system.

A complete Day dust collecting system has been provided in the elevator, with suction at all of the loading points to the belt conveyors, to the elevator legs and their discharge spouts, also, suction have been provided from the tops of all bins to take care of the air displaced when beans are being spouted into them, thus keeping the dust down to a minimum.

The boiler plant is built of structural steel adjacent to the workhouse and houses an Erie horizontal tubular boiler, which has a "Pibrico" setting.

The extraction plant is constructed of structural steel extending the distance between the elevator and the meal grinding and bagging plant. In it is housed all of the machinery for converting the soy beans into oil and meal cake. Beans being brought into the extraction plant are weighed through a Richardson automatic scale, then ground through an A-C four-roll mill, from where they are dried to a low moisture content by means of two batteries of three A-C rotary steam driers and are delivered hot to six French Oil Mill expellers.

The French Screw Presses will handle from 600 to 700 bus. per 24 hours each of soybeans, with oil in cake of finished meal running between 4½ and 5%. The presses are equipped with 40-h.p. motors and require between 30 and 35 horsepower.

The presses are furnished complete with a meats feeder and a large size 28 in. diameter steam jacketed tempering bin for a rated steam pressure of 125 lbs. The gear boxes are cast integral with the main frame of the press and are of unusually fine and heavy construction. There are two speed reductions with herringbone gears and the final speed reduction is carried on spiral gears all machine cut and mounted on heavy Roller Bearings.

The Swift presses are equipped with the new automatic continuous foots removers recently patented by the French Oil Mill Machinery Co. Also this makes the oil produced from the presses of better quality.

Of the auxiliary equipment required by the mill and furnished by the French Company the most outstanding is the automatic oil settling tank expressing a new principle, for further clarification of the oil before filtering.

The oil from the expellers is pumped to settling tanks for removal of foots and then pumped through a 36 inch by 36 inch-40 plate filter press, from where it is pumped into storage tanks and held for shipping by tank car to the Swift refinery in Chicago.

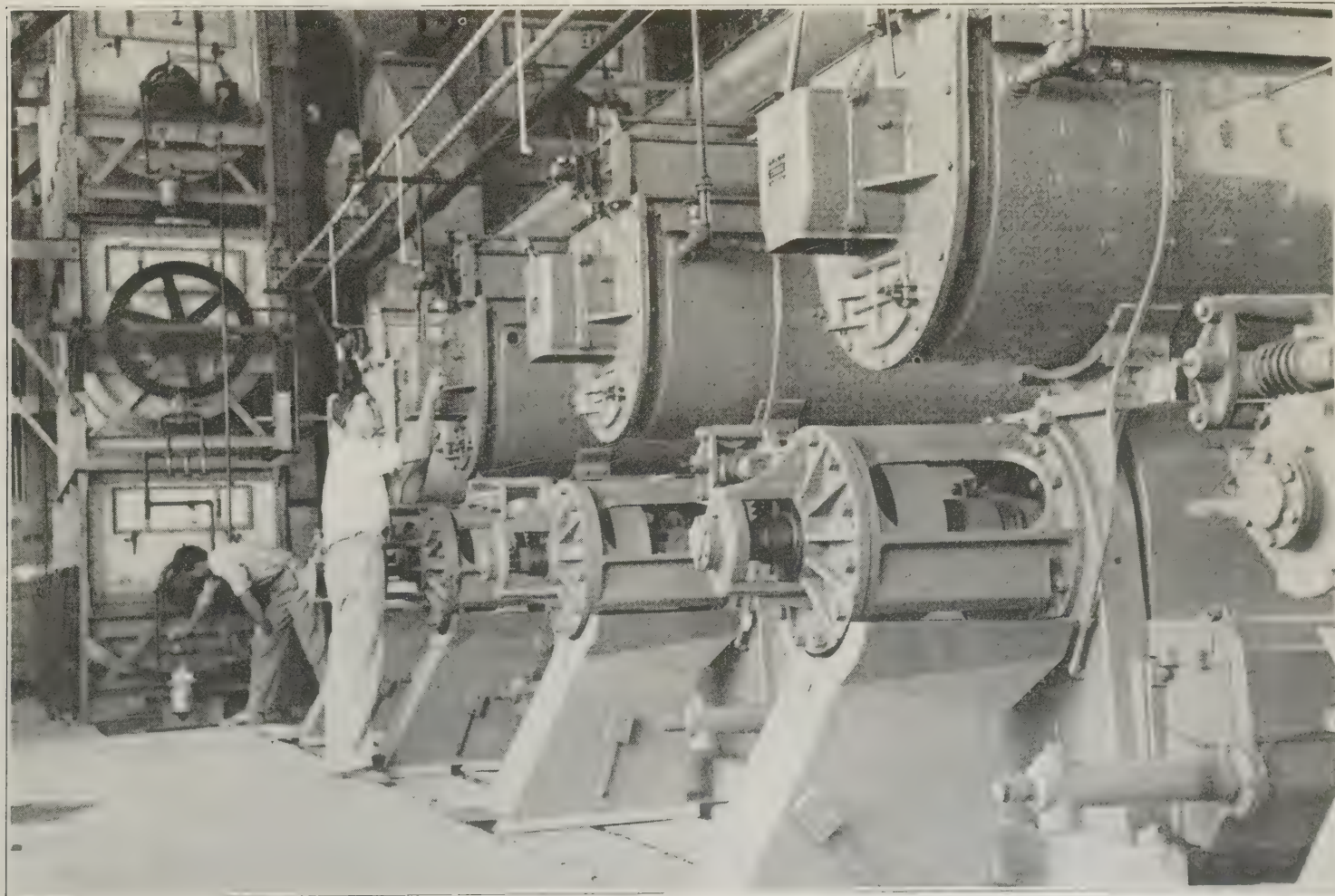
Meal cake from the expellers is collected by means of a screw conveyor and is elevated into an A-C rotary meal cooler where the temperature is lowered to a safe point.

Meal cake is taken by means of screw conveyors to a Blue Streak hammer mill, where the cake is ground into meal. Meal for bagging is dropped through a Richardson automatic bagging scale where it is bagged, the bags sewn on a bag sewing machine.

Meal to be shipped in bulk is elevated to the top of the structure and spouted direct to cars.

The elevator leg casings, the screw conveyor boxes, the conveyor

[Concluded on page 552.]



Four of the Six Huge Mechanical Screw Presses for Pressing the Oil Out of Soybeans.

The Development of Methods of Raising Slip Forms Used in Forming Concrete Bins

By R. H. FOLWELL AND R. P. DURHAM

The development of the slip form from its earliest beginnings to the latest modern improvement is not the result of the work of any one person, but of many men who have been engaged in this type of construction during the past forty years.

The idea of the slip form is old and entered the minds of nearly every engineer or builder engaged in construction of concrete walls. The grain elevator engineers of the U. S. A., undoubtedly, should be credited with the practical development and improvement of the slip form art to its modern perfection. On account of the many duplications of bins having high walls of uniform thickness, grain elevators offered the greatest held for this method of constructing concrete walls.

The slip form, while used especially for the construction of grain elevators, has also been adapted to the construction of mill buildings, factories, cold storage plants, chimneys and other structures by prismatic designing of the columns, girders and walls, so that the various parts are of uniform thickness for considerable heights. Ingenious devices of panels and fillers that may be inserted in, or removed from the forms, have been resorted to for the purpose of changing the size of columns and thickness of girders and walls and also to provide openings in walls for doors and windows and for other spaces to be filled with brick or tile panels.

The principal advantage of slip forms for concrete walls is not only the saving in cost of materials and labor but much better construction is obtained. Another important advantage is the shorter time required in completing a structure. Fixed or removable forms require not only a great deal of material, labor and time, but the result of the completed work is not monolithic as joints are formed between pours and the surfaces are generally rough and unsightly. Further it is much more convenient to place the steel reinforcing and work the concrete near the top of the slip forms than in the deeper and more restricted space between the fixed forms and a much better concrete job will result.

Bins or tanks for storage of grain and portland cement and other granular material subject to injury from moisture should be waterproof and it is, therefore, desirable to have complete monolithic construction free from joints or cracks through which moisture can penetrate. In temperate climates, the freezing of moisture in joints will in the course of time disintegrate the concrete at the joints and the bins or tanks will leak and cause damage to the contents. First-class monolithic concrete made with selected aggregates and sufficient cement with the correct amount of water and properly reinforced with steel is practically impervious to weather. It is, therefore, necessary to have the bins constructed monolithically, and for high structures this is possible only by means of slip forms handled in a workmanlike manner.

Another advantage of slip forms is that after the walls have progressed upward to a sufficient height, staging and runways may be attached to the forms from which cement finishers may work, pointing up defects and float finish the walls while the surfaces are still in a plastic condition. Any attempt to point up joints or cracks or rough places on concrete that has already hardened, is not only expensive to the constructor, but is not permanent, as any cement plaster or wash that is put on after will in time scale off by the action of frost and the elements.

Cracking and Disintegration: While on this subject of monolithic construction for grain elevators, we might call attention to the necessity of taking means to prevent the ultimate cracking and disintegration of concrete grain elevators no matter how well they may have been constructed. Concrete bins are subject not only to contraction and expansion from extreme changes in temperature, but also from the change in stresses caused by the pressure of the contents when filling or emptying. This is particularly true in large bins where often the unbalanced stresses are very large due to unequal pressures if the discharge openings at the bottom are not in the center of the hoppers. About the only means that we can suggest for reducing to a minimum the tendency of walls to crack, is to use low tensile stress values in designing the horizontal reinforcing steel hoops and also to provide sufficient vertical reinforcement to distribute unequal stresses and to take care of temperature changes. Because the interior walls are not subject to frost action, it is not so necessary to provide against cracking, and the designer may here allow higher unit stresses for steel hoops and omit the vertical reinforcement. As a matter of fact, vertical reinforcement in the interior walls, while not structurally necessary, are a great obstacle to building operations, as they are in the way of the workmen in placing steel and in transporting and handling concrete and operating the jacks.

To insure the proper placing of the horizontal reinforcement, it should be attached to the outside vertical reinforcement and the interior jacking bars or to some satisfactory vertical spacing bars, in a substantial and determinate manner. There have been many cases where, under the closest of inspection and supervision, lazy or indifferent workmen have either omitted laying the horizontal steel in its proper position or have made a practice of hooking it up through the plastic concrete. In either case there is danger of considerable areas of wall not having sufficient reinforcement and too much at other places. This is an element that is inherent to the construction of grain bins and other concrete walls with slip forms and should be guarded against by fastening horizontal reinforcement in its proper place to the vertical steel before concrete is poured.

Not all concrete walls can economically be constructed with slip forms. Only for such walls as are of uniform thickness and of considerable height, say twenty feet or more, can slip forms be used with economy. However, tanks or bins for storage of grain, portland cement, coal, gravel, sand, and other bulky granular materials are usually built in heights up to one hundred feet and in extreme cases to one hundred fifty feet and are, therefore, ideally adapted to the use of slip forms.

Before the slip form appeared, concrete walls were built by means of fixed forms bolted or wired through the walls, using one or more sets, which were removed from the wall after the concrete had hardened. If the walls were only a few feet high, one set of forms was employed and used only once but for higher walls sectional forms three or four feet high were set up and used repeatedly. Sometimes two sets were used, the upper one being filled while the lower was left in place until the concrete had hardened. Then the lower forms were removed, raised hand over hand, and reset above the other forms.

A considerable advance was made when constructors used only a single set of sectional forms that consisted of an inner and outer mold of wood or steel or a combination of both, separated and held apart with steel or wood yokes spanning the top. These forms were slacked off from the walls after the concrete had hardened,



Experimental Concrete Grain Bin Constructed by C. F. Haglin for Peavey Elevator Co. at St. Louis Park, Minneapolis, Minn., in 1899.

raised by jacks, block and tackle, chain hoists or other means and reset and adjusted against the already finished part of the walls.

The earliest construction of concrete grain storage in the U. S. A. was a single experimental tank built in 1899 at St. Louis Park, Minneapolis, at the west end of the Peavey Grain Elevator. This tank was 20' in diameter and 124' high. The walls were 12" thick for the lower 20', 10" between 20' and 38', 7" between 38' and 65' and 5" for the balance of the 124'.

This experimental tank is described in the American Elevator and Grain Trade, August 5, 1900, Pages 64 and 65, and was built by Mr. Charles F. Haglin, who applied for patent Nov. 20, 1899, on his method of construction. The patent number 662266 was issued Nov. 20, 1900. The patent describes the method of construction as follows:

"This new mold, which is made up of steel angles with wood lining held in place by yokes, is of such a character that when it is filled it is readily freed from concrete and raised by means of screws and is again readily adjusted for refilling. In forming the lowermost or first section or layer of the concrete bin, the cement is filled in between the concentric moldboards, formed by the vertical boards. As soon as the cement has sufficiently hardened or set, the entire mold is raised until the lower ends of the boards overlap only the extreme upper portions of the section of the bin thus formed. To accomplish the above adjustment or raising movement, it is necessary to loosen the section of the mold from the section of the bin thus formed."

By reference to the cut shown in the letters patent, it is apparent that jacks of the ordinary locomotive type were used, which rested and reacted upon the hardened concrete of the previous pour. The forms were moved by the jacks in connection with the hairpin hooks which engaged the upper angles of the forms and were supported over the top of the jacks, the forms being held apart by means of steel yokes.

The experimental tank built in 1899 at the Peavey Elevator in Minneapolis, was constructed for the purpose of obtaining engineering data to be used in the designing of a reinforced concrete storage annex to be erected in connection with the Peavey Elevator at Duluth, Minn. This elevator consisted of 30 reinforced concrete tanks, 33' 6" in diameter by 104' high, arranged at right angles in six rows of five tanks each to a row and were separated six feet apart with connecting walls at their tangential points, forming interstice bins which were also used for the storage of grain. The walls were 12" thick at the bottom, 9" near the middle section and 6" at the top section, and reinforced with steel hoops $\frac{3}{8}$ " x $1\frac{1}{2}$ ", spaced 11 to 18" apart vertically.

The first fifteen of these circular concrete tanks were built in 1900, the system of forms and jacking being substantially the same as was used in the experimental tank. Each day a vertical section of wall was built, the work being started the next day on the hard, smooth surfaces, thus introducing planes of separations, which the Engineering News, in describing the failure of a bin in this storage annex on Dec. 12, 1900, stated that while this was evidently a faulty mode of procedure, it should be noted that these planes of separation did not appear to have played any important part in causing the failure.

The bin that failed on Dec. 12, 1900, was an interstice bin between the outside and next to the outside circular bins on the west side of the annex. The failure occurred when the interstice bin was filled while both adjacent outside circular bins were empty, causing the walls of the latter to collapse.

An analysis of the design indicates that the interior walls of the outside circular bin might, acting as arches will, withstand the grain pressure, if provided with ample abutments upon which to thrust. Such abutments were absent because of the separation of the circular tanks of 6 ft. connecting walls. This arrangement with

long connecting walls and the consequent enlargement of the interstice bins, not only increased the grain pressure, but introduced tremendous bending stresses for which the design did not provide.

On April 16, 1903, a second interstice bin failed by crushing the circular and adjacent connecting walls of the southeast corner tank of the annex. The failure was probably due to the same defects in design that caused the first failure.

In the summer of 1901, the second half of the annex, consisting of fifteen bins of the same size, was built, with thicker walls, heavier abutments and larger amount of embedded steel than was used in the original structure. These bins, according to the Engineering News, have stood without sign of weakness.

The two failures of the Peavey Elevator Storage Annex at Duluth, warned engineers that in designing circular concrete bins arranged in clusters and using interspaces for grain storage, the bins should not be made too large in diameter and should have short connecting walls with ample provision made for thickness of walls and reinforcing steel to provide against bending stresses caused by grain pressure.

The next early record of concrete grain storage bin construction was that of the Geo. T. Evans Milling Co. at Indianapolis, Ind., designed and built by John S. Metcalf & Co., in the fall of 1900, consisting of four circular bins arranged in a cluster with one interstice bin. Two of the bins were 26' 0" O.D. and two were 24' 0" O.D., constructed with connecting walls forming an interstice bin. The walls were 8" thick for the circular bins and 6" for the interstice or connecting walls. The removable forms consisted of an inner and outer mold of $1\frac{3}{4}$ " x 5" S4S pieces of wood 2' 0" high and were lined with No. 20 steel on the outer mold and were bolted to circular steel angles 4" x 4" x $\frac{1}{2}$ ". The upper angles were held apart by means of sixteen $1\frac{1}{4}$ " bolts spaced at equal distance circumferentially, and provided with adjustable nuts. The lower angles were separated by means of sixteen bolts each, provided at one end with an adjustable nut and at the other with a cotter pin. Each bin mold was raised by eight jack screws that set upon the concrete wall previously poured and hardened, readjusted and filled with concrete, the process being repeated until the top of the walls was reached.

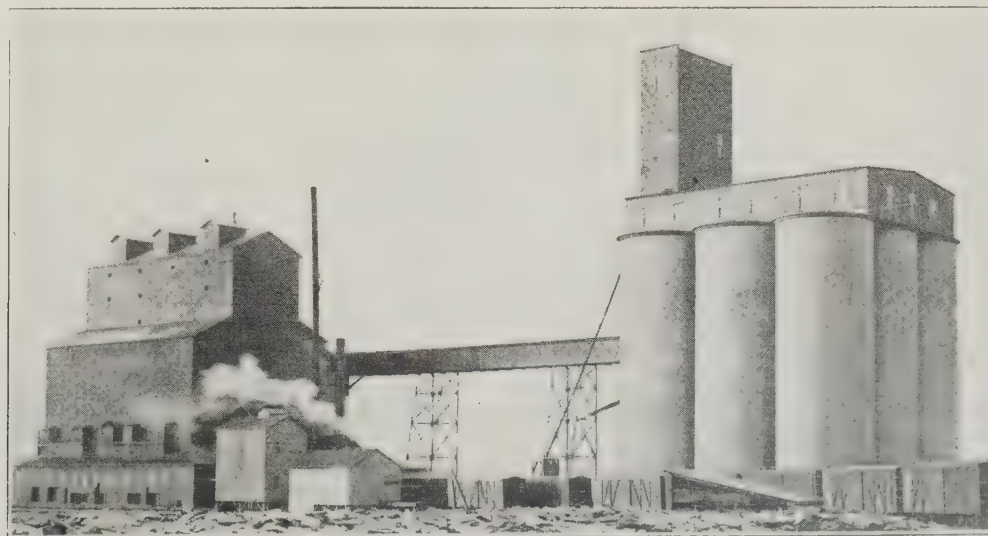
In 1901, the Illinois Steel Co. erected a cluster of four concrete bins for storage of portland cement in bulk. This structure was designed by Mr. E. Lee Heidenrich, one of the pioneer engineers in designing and construction of grain elevators and other similar structures. These bins were 25' 0" inside diameter, 53' 6" high, the walls being 7" thick for the lower half and 5" thick for the upper half, and were separated from each other by short walls forming an intermediate bin. A description of this storage unit may be found in Engineering News of Dec. 11, 1902.

Mr. Heidenrich describes the forms in his book, "Armoured Concrete Construction," copyright, 1903, as follows:

"Fig. 248 gives an idea of the moulds, which for each bin, consisted of eight outside and eight inside curved plates, so arranged that the lower part of the two sets could be clamped together in sections and be supported by friction against the finished wall, while the mortar was being tamped in the upper part."

Mr. Heidenrich further states, "this elevator was constructed during the winter of 1901, and the inner and outer forms were connected by steel angle iron yokes hoisted by means of rope and tackle on gin poles." Thus this elevator was constructed with steel forms that were released from the finished or hardened concrete, hoisted by rope and tackle and reset and adjusted for another filling of concrete.

From the description of these three structures, it is evident that in none of them had there yet been developed in actual practice the



Iron Rods were first used in Raising Slip Forms and Remained in Walls of the King Elevator at Port Arthur, Ont.

idea of continuous slipping of the forms while the concrete was still plastic.

The first example of actually slipping the forms while the concrete was still plastic, was in the construction of the Storage Annex for the King Elevator of the Canadian Pacific Railroad at Port Arthur, Ontario, in 1903, Mr. E. H. McHenry, Chief Engineer. The elevator consisted of nine reinforced concrete circular bins 30' 0" O.D. with walls 9' thick, 90' high, right-angularly arranged in three rows of three bins each. This elevator was built by the Barnett Record Co., and was designed under the direction of R. H. Folwell, who at that time was in charge of engineering of the Barnett Record Company. It was contemplated by the constructors to use slip forms on this job with hollow screw jacks and yokes, reacting upon eight 1 1/4" diameter steel vertical jack rods for each 30 ft. bin, embedded and left in the middle of the walls and spaced at equal intervals.

Reference to the drawing in the article describing the King Elevator in Engineering News of April 9, 1904, or to the work of Milo S. Ketchum, C. E., entitled "Design of Walls, Bins and Grain Elevators," will show the following note on the horizontal section through the bins:

"1 1/4" rods used in raising concrete forms and remaining in the wall."

A special hollow screw jack of cast iron was designed by Mr. Folwell in the Barnett Record Co. office, to be used in connection with the 1 1/4" vertical rods embedded in the concrete walls for raising the slip forms, but the scheme was abandoned on account of the excessive cost of the special cast iron jack screws and another scheme was adopted, using a wood framework and scaffolding, consisting of eight pairs of 4x6 vertical posts erected and braced at equally spaced intervals inside of the bins, upon which, in connection with steel yokes and locomotive jacks, the forms were raised. The locomotive jacks rested upon short cross pieces supported on 2"x6" scabs spiked to the 4x6s and reacted upwards against the inside legs of the steel yokes.

At the beginning of the construction of the King Elevator, Mr. George H. Murray, Superintendent of Construction for Barnett Record Co., slacked off the forms and jacked them up for each 12" of wall poured, but he soon discovered that this was not necessary and for most of the job jacked the forms up while the concrete in the upper part of the forms was still in a plastic condition.

This was the first case of actually constructing a concrete wall with slip forms; that is, the forms being jacked or slipped upward while the concrete was in a plastic condition.

The method of actually raising the forms for the King Elevator was a great step in advance toward the desired goal in the slip form art, as it was the first time that the forms were raised by means other than jacking upon that part of the concrete wall previously poured and hardened, allowing the pouring of concrete, the placing of reinforcement, and the raising of the forms to go on simultaneously and continuously without waiting for the concrete to harden at each successive pour.

Mr. Murray here missed a golden opportunity to be the first man to produce a concrete grain elevator with walls completely monolithic from bottom to top, as he worked only one shift of

eight hours per day and built the tanks in monolithic sections with joints every three feet apart vertically.

The method developed of jacking upon staging was cumbersome and slow in production, as well as expensive, as it involved the use of a large amount of lumber and other materials for staging, and required a great deal of carpenter work and labor.

In the summer of 1904, the Macdonald Engineering Company designed and built three flat bottom, reinforced concrete bins for the Lytle-Stoppenbach Company, at Jefferson Junction, Wis. These bins were 28 feet inside diameter, 78 feet high, cylindrical in form, and arranged in a row. The 8 inch walls of the tanks were united at points of contact so as to form one monolithic structure. They were reinforced with steel rods, both horizontally and vertically. The concrete walls were formed between two concentric cylindrical wood forms which were moved up from day to day as the concrete was poured into them. The screw jacks were operated on hollow pipes imbedded in the concrete walls for the first time. The total time required for forming the walls and cupola above the flat concrete floor was 30 days.

Engineers at this time and for three or four years later, were designing methods of raising slip forms; an example of which was one patented in the United States, May 16, 1905, applied for August 8, 1904, No. 789,988, by Mr. John S. Metcalf, an Engineer of international reputation, who had been designing grain elevators for many years.

Mr. Metcalf recognized the great advantages of slip form construction, as evidenced in the description of his patent, as follows:

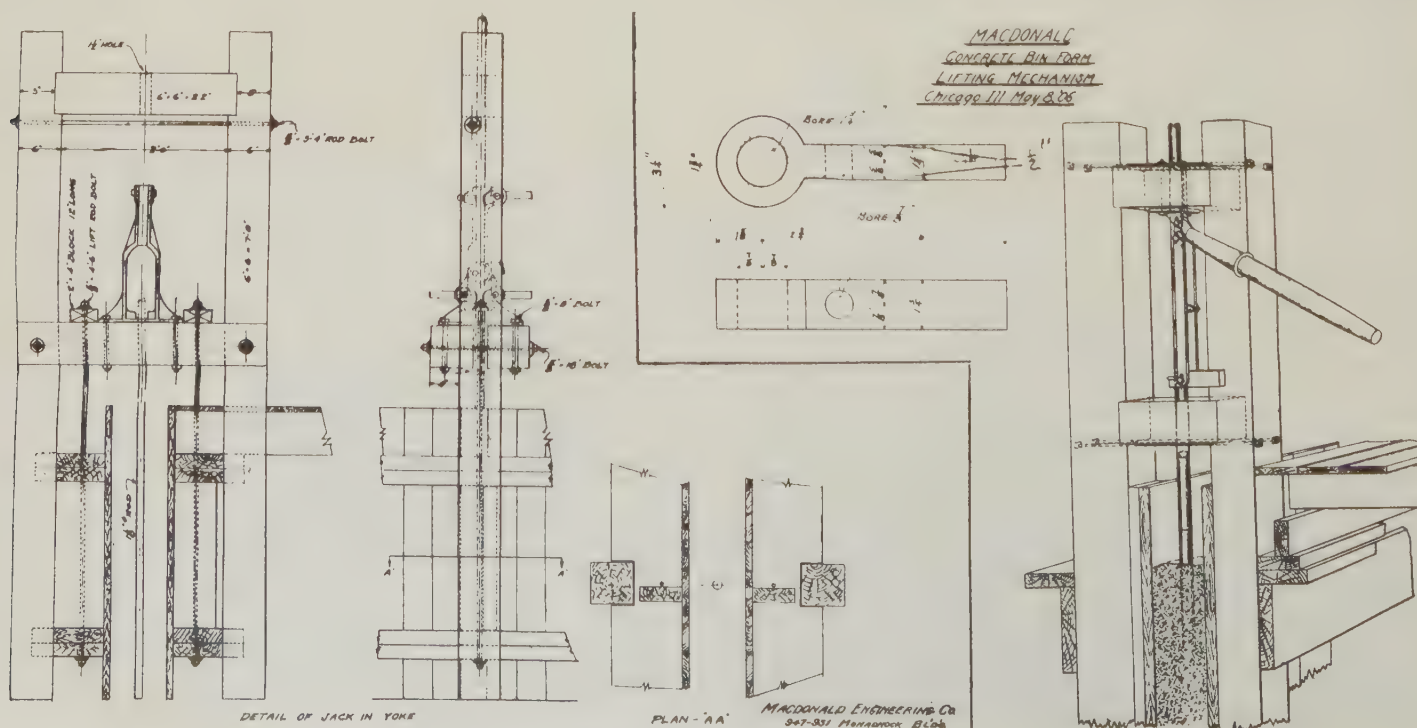
"The common practice observed in erecting structures of the kind referred to, is to lay the foundation and form upon it the walls in sections employing for the purpose suitable outside and inside mold sections. placed metal reinforcing bars, and when a section thus formed has been allowed to set for a sufficiently long period the mold is removed and the same or another mold is adjusted on the previously finished section to receive another filling of concrete, requiring to be hardened by setting before the mold is removed to be readjusted for a filling in another section. Thus forming the wall of the structure section after section incurs waste of time in waiting for each previous section to set and in the removal or readjustment, or both, of the mold, with the result of delay in the erection and attendant expense for labor.

"The primary object of my invention is to avoid this waste of time, with the advantage of expediting the work and greatly reducing the expense of erection by enabling the work to be performed continuously.

"This I accomplish by raising the mold from underneath as the work proceeds either continuously or intermittently, without removing or readjusting it and, therefore, without requirement for its repeated disintegration and reintegration, and for practicing my improvement suitable mechanism is illustrated in the accompanying drawing."

The Metcalf patent describes a system of scaffolding or framework, consisting of vertical timbers close up to the inner surface of the concrete wall and directly supporting the inner leg of a wooden yoke or sort of clothespin that holds the inner and outer mold at a distance apart equal to the thickness of the concrete wall. Several of these yokes are used, depending upon the diameter of the tank or bin, generally eight equally spaced. Jack screws were placed to rest upon the foundation, one under each vertical outside timber and yoke.

A secondary or inner set of vertical timbers was erected and braced radially and circumferentially to support the framework.



Macdonald's Mechanism for Lifting Slip Forms of Concrete Bins.

As the wall grew in height by filling concrete within the mold, the jack screws were turned to raise the framework and with it the mold along the wall surfaces, thereby incidentally smoothing them. The jack screws were reset from time to time as required, removing only a few at a time, leaving the others to support the framework when a jack screw became extended to its full length. The framework was extended upward with blocks and additional timbers as the height of walls increased.

The Metcalf patent sets forth that the jacking may be done by hand or by mechanical or other power.

The system patented by Mr. Metcalf was substantially the same as used by Barnett and Record Company on the King Elevator of the Canadian Pacific Railroad built in 1903 at Port Arthur, Ont., except that in the Metcalf system the jacks were located at the bottom and raised the entire staging whereas, in the system used on the King Elevator, the jacks were placed at the top of the staging and raised only the slip forms and working platforms, the fixed staging below being built up from time to time in sections as the work progressed upwards, by insertions of special fillers in the slip forms. This was constructed in 1910 by the Canadian Stewart Co., Ltd.

In February, 1905, Mr. R. H. Folwell, formerly chief engineer, and Mr. W. R. Sinks, formerly General Superintendent of Barnett and Record Co., became associated with James Stewart and Co. as Engineers and Managers of their Grain Elevator Department.

Among their first important contracts was the designing and construction of the American Malting Plant at Buffalo, N. Y., in 1905-06. The storage annex of this elevator consisted of forty-eight circular concrete tanks 24' 10" I.D., arranged in four rows of twelve bins each. The walls of the bins were 8" thick and 90' high and rested upon a one-story foundation with a 4' top slab similar to an old-fashioned kitchen stove, with circular holes to accommodate steel hopper bottoms that were riveted to steel flange angles, resting upon the concrete ledges. As the steel hopper bottoms were not erected until after the bin walls were completed, it was possible to construct the walls by means of a temporary frame work, similar to that used on the King Elevator, except that a jacking cage vertically movable consisting of 8 pairs of timbers, 4"x6"x14', was constructed at the lower end of the frame work.

Locomotive jacks were placed upon the basement floor under eight pairs of vertical posts of the cage which supported the corresponding timbers of an upper frame work. After the cage was raised 12" by the eight locomotive jacks, the upper frame work being held in place temporarily by friction of the forms to the walls, the cage was lowered and rehooked to the upper frame work,

sections of which were added below as the walls increased in height. The slip forms were raised by the steel yokes, whose inside legs rested upon the eight vertical posts of the upper frame work.

This system allowed the raising of the forms while the concrete was in a plastic condition and by working double shifts of 10 hours each, the walls were built monolithically for their entire height by slip form method.

However, this scheme of jacking in connection with interior timber frame work was costly in operation, as it required a great deal of lumber and labor and was slow in operation.

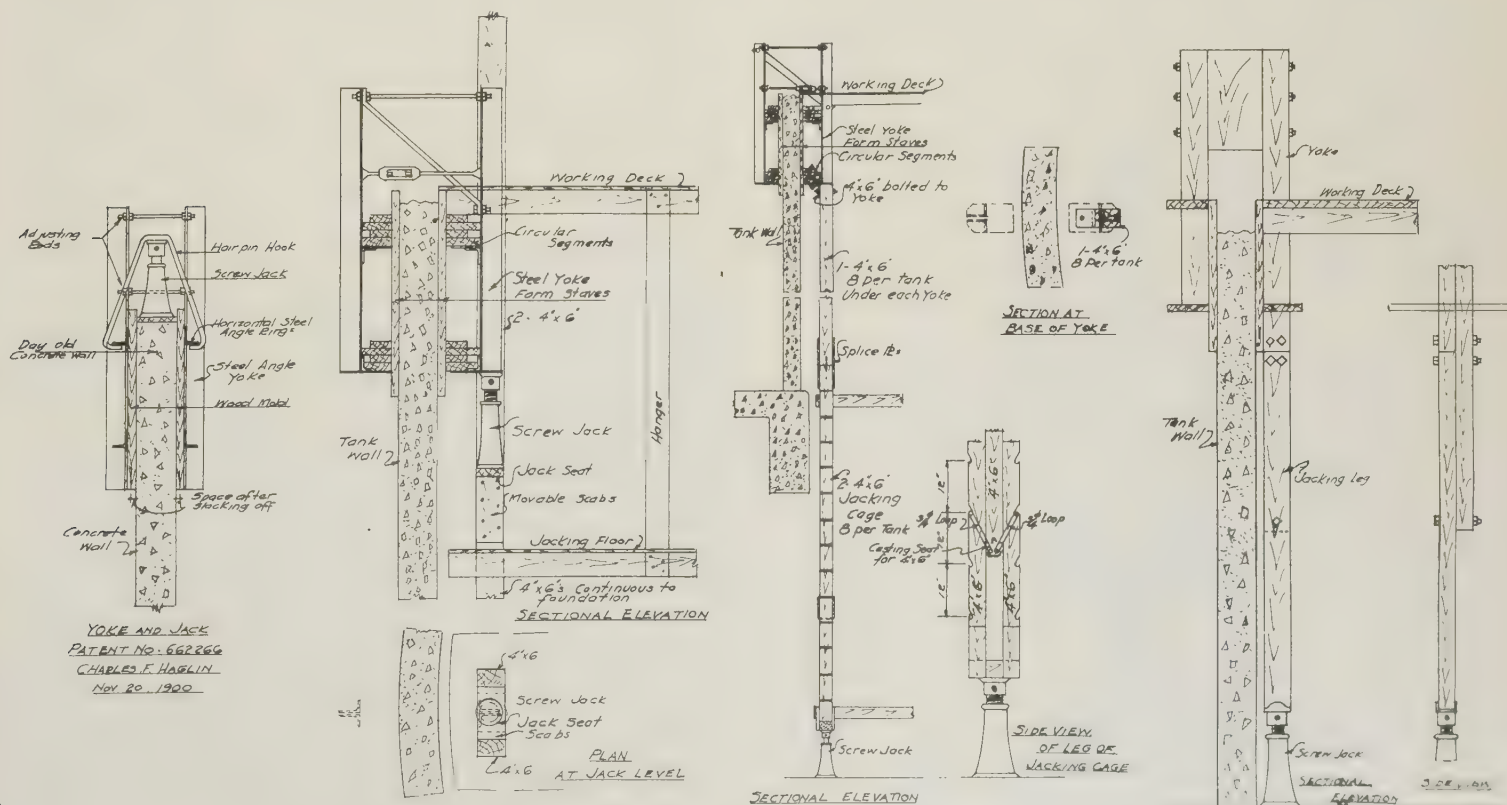
Considerable expense in form material was saved on the American Malting job by building one-half of the 48 bins at one time and re-using the same forms, cages, jacks, and staging for the second 24 bins, and the workmen became more efficient on the second half.

During the period from the construction of the King Elevator in 1903 and the American Malting Elevator, which was completed in 1906, grain elevator engineers and constructors were still trying to find some practical means of raising slip forms by jacks reacting upon vertical steel rods or pipes embedded and left in the concrete walls.

One of the first jacks used successfully to raise slip forms reacting upon pipes left in the completed walls was known as the "pump jack" and was invented and patented by Mr. James Macdonald of the Macdonald Engineering Company, and was first used in the erection of the Grain Storage Annex of the Santa Fe Railroad Elevator in Chicago in 1906, one of the first examples of monolithic construction with slip forms. With some modification in detail this jack is in quite common use today. It is based upon the "rod and ring" principle and operates upon short sections of pipe.

Continuing the study of jacks, Mr. Sinks and Mr. Folwell further developed the hollow screw jack, which they had designed in cast iron and intended to use in the Canadian Pacific Railroad King Elevator at Port Arthur in 1903. The original jack designed in cast iron was too heavy and expensive to use, but with the adoption of a hollow steel screw made of Shelby steel tubing, the jack became a practical tool and a patent was issued in 1907. This jack with some improvements has been generally used for slip form work for the past thirty years.

The slip form art, like every other art, has been improved, simplified, and cheapened both in cost of materials and labor, due to practice and suggestions of many engineers and superintendents of construction.



KING ELEVATOR - CANADIAN PACIFIC R.
BARNETT & RECORD - ENGINEERS & CONTRACTORS
1903

AMERICAN MALTING CO - BUFFALO N.Y.
JAMES STEWART & CO. ENGINEERS & CONTRACTORS
1906

PATENT NO. 782382
JOHN S. METCALF - INVENTOR
MAY 16, 1905

The early slip forms and jacks were much too heavy and rigid and in later years have been made lighter and more flexible.

The principal thing in their operation is to keep the form deck level as it is jacked upward. Another thing is to avoid jacking faster than the concrete sets. Getting the form deck out of level will cause "lifts" and jacking too fast will cause "fall outs," both of which accidents are the bane of the superintendent in constructing monolithic concrete walls.

Since the price of high early strength portland cement has been reduced, it is often found that faster progress due to a considerably greater height for a day's run offsets the additional cost of using high early strength cement, especially on union jobs, where double time has to be paid for Saturday and Sunday.

Slip forms for many years were used only for circular concrete grain bin construction, but later were applied to other structures; one of the first being a marine tower for the Western Canada Flour Mills Co. at Goderich, Ontario. The marine tower was in front of and formed an integral part of the storage bins and openings were provided for the windows, doors and other purposes by insertions of special fillers in the slip forms.

Another important contribution by Mr. Macdonald to sliding form work was the use of slip forms for other than cylindrical bins. In 1906 he erected a large four story and basement seed warehouse 89x196 feet for W. H. Small & Co., at Evansville, Ind., with sliding forms. The pump jack used was the same as used in constructing the Santa Fe Elevator at Chicago in 1906.

Since then square bin head or working houses, that part of a grain elevator which houses the bucket elevator legs, scales, garners, distributing spouts, cleaning and other grain handling machinery, have been constructed with slip forms from basement to roof. The design of the columns, girders, bin and garner walls have, of course, to be so made that the various structural elements are prismatic and nearly equal in thickness, variations of which are accomplished by means of fillers and stops inserted or removed from the slip forms as the design may require.

Reinforced concrete structures may thus be designed and constructed many stories in height with outside walls and inside columns and girders in some stories and storage bins and garners in others.

Mill buildings, cement plants, cold storage buildings, coal bins and large chimneys, in fact many other tall structures may be designed and constructed successfully and economically of reinforced concrete by means of slip forms.

Too much emphasis has been placed upon the words "slip forms" and not sufficient emphasis upon jacks and methods of raising slip forms.

Modern practice of constructing monolithic concrete walls with

slip forms did not really begin until jacks were invented that reacted upon vertical pipes or rods that were embedded and left in the concrete walls.

Another early concrete marine tower was built in the same year, 1910, by the Macdonald Engineering Co. at Toledo, O., for the East Side Iron Elevator Company. This tower was an independent monolithic concrete structure, rectangular in section, 33 ft. deep from the deck front, 22 ft. wide and 130 ft. high, resting upon a pile and concrete foundation.

There does not seem to be any claim by inventors that the mere idea of a jack reacting upon a vertical pipe or rod embedded in the concrete was in itself patentable but all of the patents of modern jacks and slip forms seem to have been based upon some combination of mechanical elements to accomplish and embody this idea.

In 1904 the Macdonald Engineering Co. used an outside threaded screw jack which reacted upon short lengths of pipe which were substituted when the screw was reversed to its upper position. This screw jack was later replaced by Mr. Macdonald with the pump jack, which was first used in 1906 on the Santa Fe Elevator at Chicago.

The Folwell-Sinks jack consisting of a hollow screw made of Shelby tubing reacting upon a one-inch diameter reinforcing rod was patented in 1907 and first used on the Anheuser-Busch Elevator at St. Louis in the same year.

With some modifications the Macdonald Pump and Pipe Jack and the Folwell-Sinks Hollow Screw Jack have been used by all builders almost exclusively during the last thirty years.

Mr. Metcalf in his patent of 1905 sets forth that jacking may be done by hand or by mechanical or other power. Two systems of power jacking have been used, one of which was developed by the Barnett Record Co. and first used in 1918. The power was applied to hollow screw jacks reacting upon vertical rods left in the concrete walls by means of a system of worm gears applied to the jacks; the worm gears being turned by sprocket chains from line shafts and the line shafts operated by rope drives from a set of gear reductions driven by an electric motor. All of this apparatus was mounted upon an overhead wooden frame that was carried up by the forms. An iron and paper friction clutch was inserted in the system for starting and stopping the operation of lifting the forms.

The other system for lifting forms with power was developed by the Fegles Construction Co. and was based upon the use of compressed air distributed by pipe lines with flexible tubes branching to individual air jacks and controlled from a central compressor station.

Both of these systems have been known to be practical and successful in operation as far as construction is concerned but the the initial cost of their installation is so great that unless they can be used on many successive jobs it is undoubtedly much cheaper to do the jacking by hand labor.

Government Invades All Markets

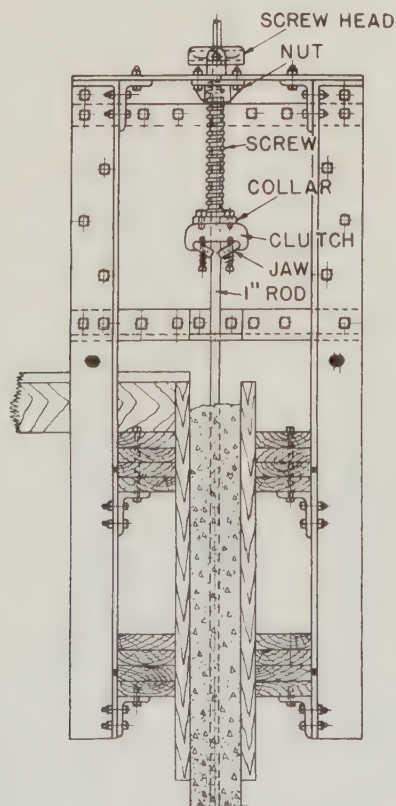
The Federal Surplus Commodities Corporation, in its efforts to control aggravating agricultural surpluses and to bolster commodity prices threatened by temporary gluts of the market, has bot surplus commodities to the amount of \$236,197,162 in the four years of its existence ending Oct. 1. This report was made public recently by its administrator. Many kinds of commodities have been purchased, transported and distributed thru the activities of this pet government merchant.

Texas leads as the state in which the largest amount of money has been expended by the F.S.C.C. North Dakota is second, South Dakota third, California fourth, New Mexico fifth and Missouri sixth.

Funds for these operations are obtained under section 32 of the Agricultural Adjustment Act, which appropriate one-third of all customs receipts to the Sec'y of Agriculture, "to be used by diverting farm commodities from the regular channels of trade so as to encourage domestic consumption or expand foreign markets."

The corporation has field agents stationed thruout the country, who report to Washington any case in which some commodity—for instance grapefruit, honey, rice, sugar beets, walnuts or cabbage—in fact, practically any agricultural product which has become a drug on the local market. If so instructed, the agents proceed to buy up the surplus, at current prices usually and sometimes, when it is considered "favorable," the agents pay more than prevailing rates, to "boost the market."

These commodities are usually transported, many times thousands of miles, to other communities in need of them. The distribution is handled entirely by state bodies, and given away free, to persons on relief in addition to their regular supplies. Some, however, are processed into salable by-products such as brandies or fertilizers. Included in the list are wheat, eggs, butter, cattle, frozen fish, cheese, dry skim milk, evaporated milk, rolled oats, sheep, goats, apples, grapes, pecans, and rye.



The Folwell-Sinks Hollow-screw Jack, Patented June 4, 1907, No. 855,462.

What Crop Improvement Means to the Country Elevators

By R. P. Woodworth before South Dakota Elevator Manager's Ass'n

During years of normal weather and rainfall the title "Crop Improvement" may suggest successful effort to secure better yield and quality of grain in any given locality. In years of drouth, emergencies such as stem rust, plant diseases and large numbers of grasshoppers, it may mean widespread effort to salvage as much as possible in quantity without regard to quality only as nature and the elements permit.

It requires constant striving on the part of the farmer to overcome adverse forces. There is also a tendency in the years of drouth and its attendant evils towards a decline in the skill with which farmers as a whole conduct their operations. Weeds, insects, plant diseases and bad tillage practices are apt to result from financial discouragement in farming. It seems to me there never was a time when crop improvement work meant so much to the country elevator in this locality as it does at the present time. I believe it should enlist the intelligent co-operation of every elevator manager.

The country grain buyer is in better position than anyone to interest the farmer in better seed selection and to explain to him the basis of premium values at the terminal markets and its relation to his production. If spring wheat is kept in its rightful place in the total United States production we elevator men should and must do our part in emphasizing crop improvement facts.

Thatcher Wheat.—The only effective defense against epidemics of black rust appears to be in the continuation of breeding for varieties highly resistant. We have a new variety of spring wheat developed at the Minnesota Experiment Station called Thatcher which has passed three years of commercial growing tests and has proved to be highly resistant to stem rust. It is of high milling quality, if not fully, equal in flour quality to Marquis wheat. There is probably enough seed available if it could be properly distributed to sow a very large acreage of Thatcher in the spring of 1938.

Is it not of paramount importance to the country elevator to see as large a percentage as possible of the 1938 wheat acreage planted to Thatcher wheat, at least in all areas east of the Missouri River? The problem is one of financing and distribution. The country grain buyer can render no better service to his clients than by doing everything possible to bring these facts to their attention and to aid in every way possible in obtaining seed where it is not already in the farmers hands.

The money for grasshopper control must come from the Federal Government. These funds should be made available early enough to permit intensive educational work throughout the country. The poison bait should be available in ample time for spreading before the hoppers start to fly. Late activities are at best apt to prove a half-hearted job. At any rate, the farmer himself must impress upon Washington that he wants this assistance.

The country grain buyer can render great assistance in bringing about discussions of this whole grasshopper problem early enough so his community may be alive to the danger faced as well as to the possible method of control. He should inform himself as to the actual damage done in his community for 1937 by grasshoppers, how much bait was spread, if on the average it was spread properly, and what results were secured. Contact your county agent and render him any assistance possible in grasshopper control work in your community. This certainly is a matter of tremendous importance to the country grain elevator. If you feel that it is of major importance try and arrange a grasshopper meeting in your town; bring in the farmers of your locality and secure speakers either through your county agent, or by writing Mr. Gilbertson of the State College at Brookings. Their assistance will help to make your meetings a success.

Seed treatment. Much has been accomplished by the elevator managers in the past ten years in interesting their customers to treat their seed for smut. It seems fair to say that the country elevator has done as much as any other single agency to educate farmers in the value of seed treatment. New Improved Ceresan is one of the most effective smut preventatives we have ever had, and it also protects seed grain against certain other seedling diseases that attack wheat during the germination period. Experiments conducted by our Experiment Stations, have proved it will increase the yield two or three bushels per acre over untreated seed.

For the past several years in Canada they have conducted, thru the co-operation of elevator agents, plot growing tests on different lots of wheat marketed by the elevator customers. This work is under the guidance and management of Major H. G. L. Strange of the Searle Grain Company, Ltd. of Winnipeg. The elevator manager obtains a sample of each customers grain and this is planted in rows, labeled, numbered and a record kept of same. In the fall when the wheat is ready for cutting, the farmers are invited in on a certain day for a picnic and to observe these test fields and compare each others' plots. This has resulted in the introduction of much better seed and a better standardization of varieties. This method is being tried out on a very large scale with winter wheat in Kansas this fall.

The Northwest Crop Improvement Ass'n was organized in 1928 and is financed largely by the milling and grain trade of the Northwest. Our aim is to work as a co-ordinating agency, assisting federal and state extension organizations as well as the experiment stations and

other agricultural groups so they may work to better advantage and to furnish technical information regarding cash grain values at the terminal market. Our secretary, Mr. Henry Putnam, will be glad to assist you in any local crop problem if you will write him stating what you want.

Many managers are afraid to take an interest in the grain production for fear they may be criticized in case of a failure. This fear is unnecessary if the elevator man in question has proper and competent advice before he makes recommendations for his community.

South Dakotans Vigorously Denounce Crop Control

[Continued from page 551]

and J. J. Westgard, Fairbanks-Morse Co.; V. M. Zweber, O. F. Schulte, J. P. Kadinger, A. R. Stenson, A. O. Wiedenman.

K. R. Simmons, Great Falls, was the sole representative from Montana.

Insurance companies were represented by: Robert Buck, Grain Dealers Nat'l Mutual Fire Ins. Co.; Otto Nelson, Tri-State Mutual Ins. Co.; P. L. Brown, the Mill Mutuals.

H. F. Raabe, New Ulm; Charles Danielson, Marietta, were the Minnesota representatives.

Chicago, Ill.—The New York Farm Bureau Federation threatened withdrawal from the American Farm Bureau Federation in the debate over a resolution endorsing the Pope-McGill farm bill in the national Senate, at the closing session of the annual convention of the national body. New York delegates said opposition to the compulsory farm regulation features of the Senate bill was so intense that several county farm bureaus had asked the New York federation to withdraw from the American Farm Bureau Ass'n.

Social Security Taxes

BY J. S. SEIDMAN, C. P. A.

(Member Committee on Federal Taxation, American Institute of Accountants)

Union rules and conditions prescribed with reference to hours, wages, lay-offs, etc., do not alter the status of the help as employees for federal social security tax purposes, even though employers may be considerably limited in the control over their help by reason of the union regulations. Where, however, there is a complete absence of control and direction over the men, they then come in the class of independent contractors rather than employees, and their compensation is not taxable.

* * *

This principle is given another workout in a ruling on manufacturers' agents. In the particular case giving rise to the ruling, a manufacturer engaged agents on a commission basis for definite territories. The agents handled other lines as well. In the contract with the manufacturers, they were specifically referred to as independent contractors. Nevertheless, it was held that they were employees of the manufacturer, since the manufacturer had the right to control and direct their services to the extent necessary for the manufacturer's business.

* * *

Where a company is going through the "wringer" by way of bankruptcy reorganization under Section 77 (B), and in the process the business is operated by a trustee, the company status is regarded as continuing rather than the formation of a new trust entity. Accordingly, the tax is to be computed and the company's returns filed just as if no reorganization petition had intervened.

* * *

"Foreign complications" play a part even in federal social security rulings. An alien, after performing services in the United States in a taxable employment, returned to his home country and requested a refund of the old age tax he paid while working here. Uncle Sam said "no." All services performed within the United States in a taxable employment are subject to payroll taxes, regardless of citizenship of the parties or place where contract of employment was entered into.

* * *

Where "wages" for taxable employment are paid in form other than money, payroll taxes are computed on the basis of the fair value of what was paid. Accordingly, it is ruled that where an employee accepts a promissory note or rent of dwelling as remuneration for employment, the fair market value of the note at the time of delivery constitutes taxable wages.

* * *

Payroll taxes attach to payment. This applies not only to actual payment, but also to the crediting or setting aside of wages for an employee. Where compensation is credited to employees' accounts with the unrestricted right to withdraw the amounts so credited, the tax attaches at the time the wages are credited, regardless of the time of actual payment.

* * *

Now that the Social Security Act requires reports of wages "earned," a recent ruling permits employers to prepare both the income tax and social security tax information reports on the same basis. For 1936 and prior years, form 1099 (income tax) showed wages actually paid during the year, regardless of when earned. Amounts earned in December but paid in January were thus reported in the year following the year when earned. This complication is now eliminated.

The Mixed Wheat Problem

Mixed wheat has always been a bone of contention between country elevator operators and farmers. When terminal inspectors graded the wheat down and reduced the level of prices available at the country point cursed with excessive quantities of this off-grade bread grain the trouble began. The elevator operators accuse the farmers of failure to clean their seed wheat, and of planting old seed without any attempt to keep it pure. The farmers insist they grow a single variety of wheat and accuse the elevator operators of deliberately mixing their pure varieties, with the off grades of different varieties of their neighbors, thus making mixed wheat of their crop.

Some elevator operators having insufficient bins in their elevators to keep the different varieties and grades of wheat separate cannot avoid mixing receipts, and some farmers lacking a knowledge of wheat varieties or neglecting to procure seed of pure variety plant any seed available.

Knowing that shipments of mixed wheat followed roughly a dividing line between hard and soft wheat producing areas, or red and white wheat producing areas, but uncertain of where the blame for the mixed shipments belonged, federal wheat experts set out last June to check some of the wheat fields in the mixed wheat areas of Texas and Oklahoma.

Before checking a field the farmer was asked what kind of wheat he raised, if it was a pure variety, if the seed was cleaned and treated for smut, and a dozen or more questions that are constantly popping up in the minds of wheat experts. Then the field was entered and trained eyes and knowledge of wheat checked the answers.

In many cases farmers were found to be producing single varieties of wheat and keeping them clean. But, also in many cases, the farmer's answers to the questions were not supported by the investigation.

A field designated as No. 33, near McGregor, Tex., was probably the most badly mixed of all the fields inspected. The farmer insisted that he was growing "pure wheat," that it was all the same kind of wheat, and he ought to know because he had saved and used seed from his own fields for many years. But when they inspected the field the wheat experts found ripening a heterogeneous mixture of nine distinct varieties, encompassing almost every recognized type of domestic wheat.

A head and some of the berries from each of the nine varieties, and one hybrid that defied classification, taken from the field, illustrates this article. In the field were Mediterranean, Fulcaster, Turkey, Blackhull, Arnutka, Kahla, Peliss, Preston, Marquis and the unclassified hybrid.

Some of these wheats are hard, some soft, some durum. They vary widely in their characteristics. Mediterranean, for instance, generally considered a soft winter wheat, shows both hard and soft strains and responds to the weather, being soft in wet seasons, hard in real dry seasons. Texas millers say it makes a good family flour, but it does not meet the requirements of discriminating bakeries.

Fulcaster is distinctly a soft red winter wheat. It makes a splendid biscuit or pastry flour. Ordinarily a pure, soft winter wheat will command a premium for this purpose, but mixtures command no premiums.

Turkey hard, introduced to the Great Plains from Russia by the Mennonites, and most widely distributed of the hard winter wheats, usually runs fairly high in protein, is in ready demand, and makes a quality of flour well liked by both the bakery and the family trade. Blackhull is a branch of the Turkey family, developed by Earl G. Clark, of Sedgewick, Kan. It produces well and finds a ready market. It is a distinctly hard winter wheat.

Arnutka is a Russian durum wheat, very good for making macaroni, but not for making flour. Kahla, and Peliss, both orig-

inating in Algeria, are hard macaroni wheats, the latter frequently also termed Black Bearded durum.

Preston, often called Velvet Chaff, is a hard spring wheat that originated in Saskatchewan. Marquis is also a northern spring wheat, of such fine quality that Herman Trelle's sample of it took second place in its class at the International Grain & Hay Show this year. What these two obviously northern spring wheats were doing down in McLennan county, Texas, a few miles from Waco, where the climate comes close to being summertime all year around, is hard to figure out. Of course, they will grow. Given a respectable soil and a growing season almost any wheat will grow almost anywhere. But these spring wheats could not be expected to produce as well under Texas conditions as better acclimated strains, nor could they be expected to mature at the same time.

When a miller buys wheat he keeps in mind the type, quality and yield of flour that wheat will produce when it finishes the trip thru his rolls, sifters, purifiers and other machinery. Profits in the flour mill depend upon the differential between the cost of the wheat, plus cost of operating the mill, and the yield and quality of flour that set the amount of money he can get in return. Just what a miller is to do with a mixture such as grown in field 33 is a puzzling problem for all millers. If they use such wheat it must be mixed in very small quantities with pure wheat that is above standard. Millers who are proud of their flour, and guard its standards carefully with endless laboratory and baking tests, accept even minor mixtures under protest.

The market for mixed wheats is usually the terminal elevators who buy such large quantities of good quality straight wheats that they can lose a relatively small amount of mixed wheat in their own processing operations. Terminal elevators are most willing to buy mixed wheat on its merits, figuring from the sample the percentages of each type of wheat in the mixture. However, terminal elevators, too, prefer straight wheats and are willing to pay a premium for them in accord with supply and demand.

Regarding premiums, W. B. Combs, senior marketing specialist with the federal department of agriculture, remarks: "The premiums which wheats of pure classes command over wheats of mixed classes vary from year to year and depend a great deal on the relative volume of the various classes of wheat which are available for sale. Usually, for example, either soft red winter wheat or hard red winter wheat commands a premium over a mixture of wheat of these classes. In occasional years, however, when the supply of soft red winter wheat is small and when such wheat, therefore, sells at a premium over hard wheat, a mixture of soft red winter with hard red winter may sell for more than wheat of the hard red winter class alone."

It is pointed out that even in those rare periods when a shortage of soft wheats causes the soft wheat in a mixture to pull the price above that of hard wheat, it is never able to pull the price up far enough to equal the returns from the same wheat were it properly separated into the two classes. If the two classes of wheat were separate in a bulk-headed car, the carload would bring more on the market than it would when the two classes were mixed.

It takes a small amount of wheat of one class mixed with wheat of another class to insure the entire lot grading mixed. Official grade standards for wheat provide a 10% limit of admixtures of other classes of wheats in the so-called "straight" classes, such as hard red winter, soft red winter, etc. When the 10% limit is exceeded the wheat is classified as "mixed."

"The greater part of the wheat produced in the United States is of the 'straight' classes," reports Mr. Combs. "Since the year 1918 when the statistics of wheat classification on a national basis were first available, there has been a reduction in the volume of mixed wheat from a high of 14% of the crop in 1920 to the 1936 figure of 6.8% of the total inspected receipts. The volume of mixed



Ten Varieties of Wheat Found Growing in One Field of a Texas Farmer Who Was Growing "Pure Mediterranean."

wheat inspected from the 1936 crop was approximately 35,000,000 bushels, which of course is only a very small portion of the total wheat production in the United States. The sections where mixed wheat is produced are comparatively small in relation to the total wheat producing area. However, in certain counties the marketings of mixed wheat have amounted to as much as 50% of the total wheat produced in the county.

"The largest quantity of mixed wheat is found in the sections of the country where the production areas of hard red winter and soft red winter join. This line extends from the north central part of Texas thru the central eastern parts of Oklahoma and Kansas, the northern part of Missouri, and the central parts of Illinois and Indiana. There is also a mixed wheat section in eastern Michigan, northwestern Ohio and northwestern New York where white wheat and soft red winter wheat are the principal classes involved."

If several varieties of wheat are produced in a community the problem of keeping them separate in the ordinary country elevator becomes complicated by an insufficient number of bins. Michigan elevators attempt to master this problem by providing many bins so they can keep different grains and different classes of grains separate, but this method becomes impractical in districts where the rush of wheat at harvest time quickly fills the elevator to overflowing, and often requires the running of wheat direct from the dump pit thru the automatic scale into cars.

Canadian and northwestern elevators have markedly reduced their troubles with mixed wheats thru crop improvement ass'ns, and the direct community efforts of the elevators. Introduction of pure seed into a community by the elevators has usually been rewarded with seed purchases by the farmers and a gradual improvement in wheat production.

When introducing pure varieties of seed wheat the elevators have attempted no profit from the sale of the seed, sometimes offering the pure seed for little more than a straight exchange basis. Their reward has come from increasing yields of "straight" wheats of higher quality, resulting in greater quantities of wheat moving thru the elevators at a better price for both the farmer and the elevator operator.

This educational work toward the standardization of varieties in a community has almost licked the mixed wheat problem for the northwestern elevators. Undoubtedly it can do the same in the sections of the country that are still troubled with mixed wheats if the elevators themselves will cooperate to that end.

Introduction of pure seed in many communities, however, is not enough. In stubborn areas the dollar will carry great weight, and redound to the eventual profit of the grain dealer if he will offer a monetary reward for the production of pure classes. Says Mr. Combs: "Surveys show the necessity for grain dealers in mixed wheat areas to pay some attention to classification of wheat in order that the high quality lots of grain may not become mixed with other classes of wheat. Any premiums which can be paid to the producers for quality grain do much to encourage the farmer to produce the kind of grain which is desired in the terminal markets. Therefore, an important problem which the grain dealers must consider is the possibility of reflecting a fair premium directly to the individual farmer who produces grain of high quality."

A wheat buying grain dealer who practices paying higher prices for pure varieties of choice wheat than for the mixed lots that are brought to him, will find he can speed the shift to standard varieties in his community if he will trouble to explain the premium to the farmer when he makes settlement. Showing the farmer the differences in market values between the "straight" and "mixed" wheats will boost mightily for the standardization of varieties and classes in reduce competition because it will enable him to ship top price a trade territory. For the grain dealer, too, standardization will wheats to the terminals.

Grain Futures Restrictions Depress Prices

Geo. H. Davis of Kansas City, president of the Chamber of Commerce of the United States, addressing the Chicago Ass'n of Commerce Dec. 10, said, in part:

"For some years, with others, I have been trying to keep the legislative branch of the government from hampering the present system of handling grain. The farmer insists on selling 60% of his crop in the first couple of months. Somebody must carry this grain until it is possible for demand to take up the supply. The miller must hedge, the exporter buy. That requires a market with considerable volume and we used to have, at times, a substantial open interest in wheat.

"Now, under the Commodity Exchange Act, if anyone buys or sells any appreciable volume of grain futures, Washington snoopers are after him. This has curtailed volume to a point at which the market could not hold up values in the face of the visible supply. In consequence, with the most bullish conditions seen since I have been in the business, wheat has topped 30c a bushel. American wheat is 12c cheaper than Argentine and corn is 14c cheaper. The government has spent a lot of money, and what is the result?

"The result is that in terms of the old gold dollar, our wheat is selling at the equivalent of 53c a bushel, corn at 31c, oats at 18c, hogs at 4 3/4c a pound, cotton at 4 3/4c and cattle at 5 1/2c to 6c.

"In following new theories, there has been spent over \$2,000,000,000. The farmer didn't get over half of it. The rest was lost in unwise speculation. And this isn't new. Don't misunderstand me as directing this attack solely at the Roosevelt administration. The Federal Farm Board began under the Hoover administration.

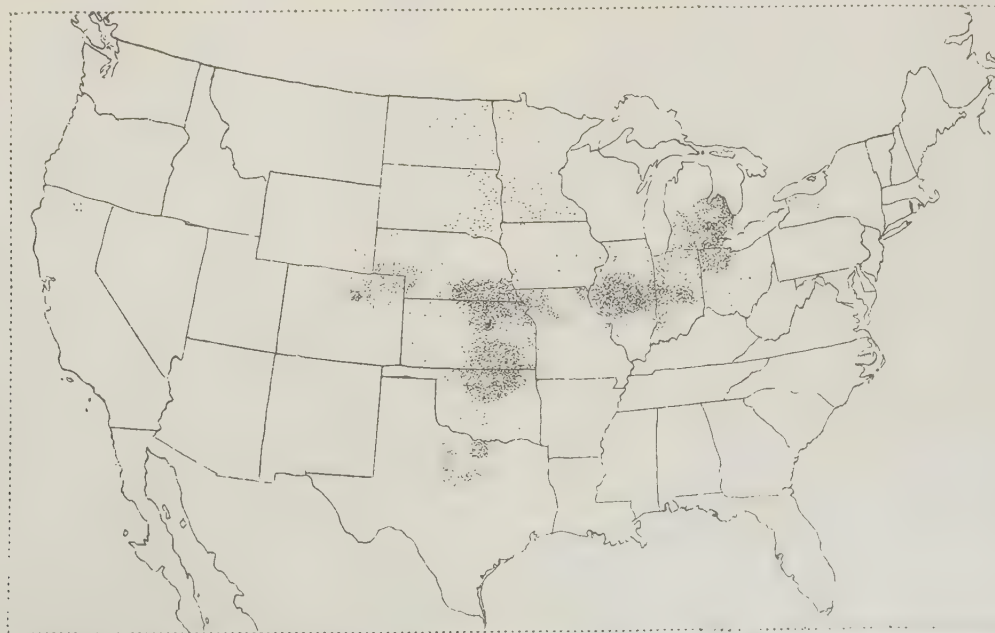
"Nor is lack of volume bad only on the down side; it is just as bad when prices are going up. When a better market system than our present one is devised, we will all be for it; until a better system is found, we are against wrecking the present system."

Imports and Exports of Grain

Exports of grains during the period July-October, 1937, compared with the same period in 1936 (in parentheses) were as follows:

Barley, 7,023,000 bus. (3,601,000); buckwheat, 47,000 bus. (none); corn, 284,000 bus. (281,000); oats, 4,652,000 bus. (308,000); rice, 99,814,000 lbs. (2,587,000); rye, 2,799,000 bus. (none); wheat, 24,661,000 bus. (7,906,000).

Imports for the same periods were: barley, 977,000 bus. (4,899,000); barley malt, 96,191,000 lbs. (111,952,000); corn, 33,843,000 bus. (15,116,000); oats, 3,000 bus. (37,000); rice, 59,875,000 lbs. (41,493,000); rye, none (2,828,000 bus.); wheat, 2,960,000 bus. (24,137,000); flaxseed, 7,032,000 bus. (4,347,000).



Dots on This Map Show Original Carlot Shipments of Mixed Wheat Inspected at Principal Terminal Markets, East of the Rocky Mountains.

South Dakotans Vigorously Denounce Crop Control

Undaunted by drouth, dust storms, grasshoppers, and crop failures, the members of the Farmers Elevator Ass'n of South Dakota showed their courageous spirit and will carry on, in their vigorous denunciation of the Crop Control Bill and other detrimental legislation now pending before Congress. At its meeting, held in Aberdeen, Dec. 7, 8, 9, with a registration of 385, the Association heard interesting and informative addresses and discussion on many of the trade's vital problems.

PRES. CHRIS JENSEN, Putney, called the meeting to order and immediately turned the gavel over to Vice Pres. C. A. Woods, Plankinton. Following the invocation, K. G. A. Springer of the Aberdeen Civic Ass'n extended the city's welcome, the response being made by Vice-Pres. F. J. Cross, Randolph.

SEC'Y C. G. ANDERSON, Aberdeen, in a brief summarization of the association's activities during the past year said in part: Due to the drouth and resultant crop failures we have necessarily been forced to curtail our activities to some extent. In those sections where there were no crops to speak of, we have refrained from asking for payment of dues. Elevators in good crop sections should pay promptly. Naturally our revenue has been reduced, and in keeping with that reduction, the operating expenses of the ass'n have been reduced. However, we will have a large crop in 1938, after which many of our difficulties will be over. Our legislative committee has been very active. We are endeavoring to have the inspection of scales returned to the Warehouse Commission, and doing everything we can to defeat legislation which would prove harmful to our business. To minimize the destruction of crops by grasshoppers we must lend every aid in the eradication of these pests. Against a loss of \$187.62 in 1936, we now show a profit of \$381.01. This in itself is a clear indication we are on our way.

The auditors report read by Sec'y Anderson was approved.

C. L. DOHERTY, State R. R. Commissioner, stated the 15% increase in freight rates asked by the railroads, would cost South Dakota between three and five million dollars annually. He declared agriculture would pay, in one way or another, for most of the increase, through lower prices on the products which it sells and higher prices on what it buys.

KENNETH KELLER, Lead, representing one of the larger mining companies, sought the support of the ass'n in asking for a reduction in taxes on mining industries. He said excessive taxation is driving and preventing capital from investing in South Dakota's mining properties and has forced his company to cease operation on marginal ores, which will be a permanent loss to the state.

H. A. FELTUS, Minneapolis, used motion pictures to show the development work being done on the Upper Mississippi River.

Wednesday Morning Session

SEC'Y ANDERSON announced the following to serve on the Resolutions Committee: I. W. Overton, Webster; R. L. Bryan, Stratford; Will Davis, Yale; Geo. W. Dixon, Aberdeen; S. S. Judy, Forestburg; Henry Leuth, Canova; W. J. A. Schoppe, Putney; Geo. E. Williams, Kampeksa.

Credentials: G. L. McLaughlin, Hazel; C. A. Woods, Plankinton; C. G. Anderson, Aberdeen.

PRES. JENSEN, serving his eighth year as president of the ass'n, read his annual message.

Pres. Jensen Demands Repeal of More Laws

This year a law was proposed and passed by the Senate of South Dakota which would have handed over the regulation and control of the farmers' elevators to a federal agency. The inducement held out to the legislature was that it would be cheaper, requiring only 40% of stored grain to be covered by bonded insurance, which was said to be sufficient because of more frequent and rigid inspection of elevators.

But the savings in cost were trivial. So, after thinking it over first as farmers, we concluded that we would rather have our grain in the elevator insured 100% against loss; and from the standpoint of an elevator company to pay the small sum extra and have a little less snooping. Therefore we asked for a hearing before the warehouse committee, and after explaining our position the House refused to pass the measure.

I am a strong believer in home rule and in this matter our own state government, through its railroad and warehouse commission, has done a very good job of supervision—default on storage being practically nil.

During the year we have had the opportunity to observe the operation of the Commodities Exchange Act, the enactment of which we unsuccessfully opposed in congressional committee. After listening for several days to the testimony in support of this bill, during which time the principle of trading in contracts for future delivery was attacked in the most bitter and reckless manner, I could not see how this law could do anything but throw sand in the bearings of our marketing machine.

Short-selling was spoken of as if it could exist alone, scarcely ever did they mention the long side. Apparently they thought the longs were the "salt of the earth" while the short-sellers were the progeny of Satan, and little better than thieves.

Now, we have never yet passed laws to regulate stealing, but do our best, I hope, to suppress it entirely. If trading in futures is as bad as they said it is, it should be suppressed. But those who were slated to administer this law objected to this, and said that it would be impossible to market grain without this function as economically as it is now done.

Dr. Duval, who is in charge of administering this law, said that trading in futures was a necessary function of our marketing system. He only wanted to regulate it. He said it was highly desirable to have

the general public in the market as a stabilizing factor against undue fluctuations, and that such a law could be used to save them from being devoured by the big bad bear.

The government would take the small speculator by the hand and keep him safe. I concluded that this law also was to be used to scare the shorts, and to keep them in their place. Well, how did it work?

It is interesting to note that when the board of directors of the Board of Trade closed the exchange to trading in the September corn futures to iron out the congestion, one of the principal shorts was a government sponsored corporation. This corporation was very vocal at the congressional hearings in its denunciation against short selling. Which goes to show that men are often hypocrites. But the best guarantee against hypocrisy in the market place is that the trader backs his trade with his own money—not with someone else's.

I have been informed that never in the history of the Board of Trade in Chicago were there so many small open accounts as in the September options in corn. So, according to Dr. Duval, the condition should have been ideal for a stable market. But instead of that we find a market drifting into a state of congestion. We find that finally this law was used, not to scare the shorts as was intended, but to crack down on the longs—as it was not intended to do. And what became of the little traders, Duval's proteges—I don't know.

Of course, the government didn't want to be found keeping company with the shorts, so the Board of Trade was forced by this law to do the dirty work. After which Dr. Duval jumped right out before the public in his underwear, 'so to speak, and suggested that the longs sue the Board of Trade for damages for having done what he and his law had forced it to do. That's what happens when the politician stands in the market place.

In the days before the government began to mind our market so much, it was much more orderly than it is now. There was an orderly relation between the future months, called a carrying charge, thereby making hedging operations much safer for the elevators and warehousemen and processors in general to use. No, government meddling has not improved our marketing system, nor made it more honest.

Is it not possible that we are depending too much on laws to cure our troubles, real and imaginary? Is it not likely that all these innumerable laws are in themselves depression factors, charged with the elements of frustration of human endeavor and ambition to do things in the way they know how to do them? It is easy to pass laws to prohibit doing things. But no laws can be enacted to force anyone to exercise his ingenuity or ability for enterprise against his own better judgment—not yet anyhow.

If we keep on in the way we are going we shall soon need laws the same as they have in Russia, where factories receive quotas to be produced in a given time, and if they fail to do this, the superintendent or foreman may be tried and convicted of sabotage and shot. Yet, under their system they are not (according to what I read) troubled by overproduction. It is time that we stop, look, and listen, to see where we are drifting.

However the outlook is not without encouragement, for Congress is seriously considering ways and means to help business, not by passing more laws, but by repealing some. This is very encouraging. If they would just keep repealing about ten unnecessary laws a week from now until next spring, it would help a lot.

The good God only made ten laws for the regulation of the conduct of men. It is hard to believe that the tens of thousands of laws that nobody knows, not even the lawyers, can be anything but confusing to our economic life. It is a safe bet that a law not needed is a bad law.

GEORGE GILBERTSON, State Extension Entomologist, in discussing Grasshopper Control, said: In many areas of our state, in order to keep the soil from blowing and to conserve as much water as possible, tillage is reduced to a minimum. Since this is the case, complete grasshopper egg destruction cannot be expected in these areas. However, "stubbling in," if carried on, should be done with the maximum amount of tillage that a given soil will stand. These tillage operations will destroy at least some of the 'hopper eggs and will help materially in reducing 'hopper population. Field trials and observations have shown that the heat of burning vegetation does not penetrate deep enough into the soil to destroy 'hopper eggs. Such tests have also shown that 'hopper eggs are very resistant to freezing when they are covered with a small amount of soil and even snow. Under such conditions the 'hopper egg pods are not injured by the lowest temperatures recorded in our state. Cold rainy periods of several days duration occurring just after a big hatch of 'hoppers will frequently destroy large numbers. The young 'hoppers are not active during periods of low temperatures. When the temperature is below 55 degrees F. immediately after hatching the 'hoppers are inactive and if this temperature prevails for a week a high mortality results. However, the hatching period extends over several weeks, and the unhatched eggs will not be injured by such cool rainy weather.

The following factors should be common knowledge in 'hopper infested areas, no single one of them can bring about the control of 'hoppers, but an intelligent observance of all will reduce the hazards of farm operation in so called 'hopper years: fall plowing where advisable; spring plowing if done by May 1; a thorough job of listing; duck footing; disking and harrowing; early seeding usually advisable. Be sure your community is adequately organized to control 'hoppers before extensive damage is done. Make arrangements to have bait available where and when needed.

C. LARSON, Dean of the State College of Agriculture, who traveled through Russia recently, graphically described conditions in that country, stating he did not believe Russian agricultural workers were getting a square deal. They are the only ones in the nation who do not receive a cash salary from the government. In his opinion production of wheat in Russia is increasing, and the Soviets will soon make themselves felt in the wheat markets of the world. Dean Larson was asked many questions proving the intense interest in and desire for greater knowledge of that country.

Wednesday Afternoon Session

GOVERNOR LESLIE JENSEN was enthusiastically received when he appeared on the platform. His message of help and encouragement was the highlight of the meeting. He said: Some farmers in our state have a two year supply of rough feed on hand, but no livestock to consume it. If loans can be made successfully for housing, they ought also be made to build up the cattle and sheep population of the state. I plan a trip to Washington soon and will ask for federal loans for the purchase of livestock by South Dakota farmers who have surplus feed. The governor also discussed the irrigation needs of the state, the tourist business gain and the international situation.

LEON ROBBINS, Chicago, urged those present to investigate possibilities for the production of new, marketable crops in their localities and to promote diversification of crops.

R. P. WOODWORTH, Northwest Crop Improvement Ass'n, Minneapolis, read a paper on "What Crop Improvement Means to the Country Elevator," which is published elsewhere in this number.

W. C. ALLEN, editor *Dakota Farmer*, Aberdeen, quoted statistics to show there has been no surplus of hard spring wheat in the U. S. since 1924, saying: "There must be no restriction on growing hard spring wheat unless and until there is a surplus with a reasonable carry-over. It is up to northwestern wheat growers to see that no restrictions on 1938 plantings are included in the so-called Farm Bill now before congress, nor in any other enactment by congress. Official government figures confirm the statement that there is no surplus of hard spring wheat and that there has been none for some years. If it had not been for importations of Canadian wheat during the last few years, there would not have been enough hard spring wheat to meet the country's needs. In the last three years, we have imported into this country from Canada 119,000,000 bushels of hard spring wheat. It all is a very serious matter to us here in the Northwest. With an increased acreage of winter wheat already planted, it would be unfair to restrict the acreage of hard spring wheat, such as we grow here. I suggest this convention adopt resolutions against restricted plantings of hard spring wheat and immediately forward copies to all northwestern senators and representatives, to the secretary of agriculture and others. I also urge each of you individually to telegraph and write our representatives in congress, and to urge your neighbors to do the same. I also recommend to your consideration the matter of eliminating durum from wheat classification.

Thursday Morning Session

A. M. HOVEN, Selby, opened this, the manager's, session and suggested many subjects to be brought up for discussion.

BOB BLACK, Federal Supervisor, Minneapolis, explained in detail why there is such a large discount on ergoty wheat; malting barley requirements; grain testing with the different moisture testers. Mr. Black warned against the too early cutting of barley and threshing it too close.

E. C. HILLWEG, Dept. of Public Relations, Minneapolis Chamber of Commerce, urged the planting of the better grades of barley, declaring it is by this means alone that buyers of malting barley will be induced to buy South Dakota barley on a parity with that grown in other states.

A. F. NELSON, sec'y Farmers Elevator Ass'n of Minnesota, gave a brief resumé of the work of the Farmers Nat'l Grain Dealers Ass'n and the value of ass'n membership. Mr. Nelson stressed the many services which accrue to members of ass'ns.

Thursday Afternoon Session

VICE-PRES. CROSS was in the chair at the opening of the closing business session. S. S. Judy, Forrestburg, and Joe Lapka, Leola, were re-elected to the Board of Directors. The sec'y was instructed to cast an unanimous vote for the re-election of Mr. Jensen to the presidency, his ninth term.

W. J. A. SCHOPPE, Putney, read the resolutions which were adopted.

Resolutions Adopted

Resolutions unanimously adopted thanked officers and those who assisted in handling the convention; urged passage by Congress of the Pettengill bill for repeal of the long and short haul clause of the Interstate Commerce Act; opposed the 70-car train limit bill pending in Congress; recommended to farmers elevators the adoption of uniform, modern by-laws; urged a collection fee on mortgaged grain as follows:

COLLECTING MORTGAGES

WHEREAS, managers of elevators are put to considerable trouble and annoyance in making collections when purchasing mortgaged grain, be it

RESOLVED, that we favor and urge the enactment of a state law providing a collection fee of one (1) per cent of the total amount of the indebtedness on the grain collected for the mortgagee, to be paid to the elevator.

INSECT control, wheat control and seed loans were covered in a single, lengthy resolution. This asked first that Congress appropriate a sufficient sum "to guarantee an adequate extermination campaign against grasshoppers" in time to "insure early and adequate provisions for the necessary protective measures justified by the situation."

ELIMINATION of hard red spring wheat from the crop control

features of the farm bills in both houses of Congress was the second request in this resolution. This called attention to greatly expanded acreage and output of soft and white wheats during the period that drouth and insect pests cut the production of hard red spring wheat and classified these wheats as greatly "inferior to hard red spring wheat for milling, bakery and general use." It also pointed out that "it has been found necessary to import millions of bushels of hard spring wheat from Canada to supply the demand for such wheat in this country," before requesting that "any wheat control program, if one is adopted, should not be applied to the producers of hard red spring wheat, of which there is seldom if ever a surplus beyond domestic requirements. Therefore, it is urged that the senators and representatives . . . oppose any policy of acreage reduction applied to wheat which is not based definitely on the principle that only those types of wheat produced in excess of domestic demand plus a reasonable carry-over, shall be subject to crop or marketing control restrictions."

The third request asked simply "that if a seed loan appears necessary and justified, steps should be taken to insure an early appropriation so that funds may be available in time to be of maximum service to needy and deserving farmers."

Ajourned *sine die*.

The Smoker

Through the courtesy of the grain commission firms, grain elevator builders, machinery firms, coal dealers, etc., the delegates were entertained in the Armory with an excellent buffet dinner, followed by several vaudeville acts. The Elks Band furnished the music throughout the dinner. The dance in the ballroom of the Alonzo Ward Hotel was a fitting climax to three days of close attention to business.

Aberdeen Observations

Minneapolis grain firms kept open house throughout the convention, giving them ample opportunity to entertain their many friends.

The B. T. U. Club proved to be a very pleasant rendezvous, especially the night it served venison steaks.

"Pistol Shot" Kiefe, with his usual bag of tricks, and Chas. Dressell represented T. E. Ibberson Co. A clever key hole finder was the piece de resistance.

The miniature Hart-Carter sirens handed out by Cliff St. Cyr prevented the keeping of peace and quiet at the smoker.

Ass't Sec'y Anderson, with an able assistant, handled the registration.

Those in Attendance

S. D. Farmers Elevator managers present included: Geo. G. Schilling, Akaska; J. K. Turrill, Amherst; Herb Dobberpuhl, Andover; E. J. Oyan, Baltic; E. W. Ladwig and Harry Peterson, Barnard; Fred Stotz, Bowdle; Edw. Jerde, Britton; J. E. Miller, Castlewood; Henry Leuth, Canova; Geo. Hjelm, Claire City; Henry Hinrichs, Claremont; J. E. Keenan, Clark; J. M. Oyan, Colman; C. C. Stoddard, Conde; E. J. Heiser, Craven; R. O. Roberts, Cresbard; O. M. Rasmussen, Crocker;

G. W. Loats, Dempster; H. C. Wold, Dupree; E. W. Boldt, Eagle Butte; Henry Ottmar, Eureka; Ed. DeMersseman, Faulkton; J. S. Foster, Firesteel; T. E. Lewis, Florence; Walter Fairfield, Forestburg; O. G. Haugen, Garden City; E. S. Markovetz, Gettysburg; Lloyd Engbreton, Glenham; G. A. Kline and Wm. Craig, Groton; G. L. McLachlan, Hazel; F. F. Kurth, Hecla; S. J. Shulson, Hillhead; Herman Carlson, Holmquist; M. J. Goebel, Hoven; D. E. McDaniel, and F. H. Ripley, Huron; L. B. Kraft, Ipswich; W. F. Ehrenberg, Isabel; Wm. Kunz, Java; Charles Kirsch, Kampeska;

F. S. Wasem and W. C. Bradkorb, Lane; Frank McGovern, Langford; Paul Pickart, Lebanon; R. W. Cochrane, Leola; G. Weisz, Loyalton; F. J. Snyder, Mellette; I. L. Demaray, Mitchell; Nels Christopherson, Naples; A. F. Johnson, Onida; C. L. Curry, Orient; Edw. Knudson, Pollock; Emil Nelson, Putney; E. Bernet, Roscoe; A. M. Hoven, Selby; Palmer Tuveng, Sisseton; Frank Harms, Spain; J. P. Hegge, Summit; H. P. Gelling, Turton; Wm. H. Urevig, Wallace; J. L. Bigham, Watauga; I. W. Overton, Webster; Frank Jensen, Wessington Springs; E. W. Callaghan, Westport; J. O. Tipton, Wetonka; W. E. Brewster, Woonsocket, and Paul Kleinsasser, Yale.

Other South Dakota elevator representatives were: A. L. Saville, Alpena; A. C. Mattson, Andover; H. J. Weixel, Ashley; H. C. Baer, Bowdle; Lyle Harris, Brentford; D. C. Kruse, Castlewood; Jake Stahl, Cavour; Henry Van Soest, and Roy Folkerts, Corsica; C. N. Wells, Crocker; Noble and R. E. Griffin and J. R. Crowley, Ellendale; Christ Fiechtner, R. H. and Theo, Isaak and J. J. Weixel, Eureka; J. H. Peck, Gallup Siding; Emil Perman and Joe Weider, Greenway; Earl Rapp and F. F. Schultz, Groton;

E. S. Isaak, Hillsvie; Charles and Marshall Mack, Hoven; G. E. Welham, Kampeska; R. E. Shoemaker and J. Palmquist, Langford; E. J. Ziltz, Lemmon; Ed Heyd and Ed Schock, Long Lake;

J. C. Hegebak and Mark Aus, Madison; John Shoemaker, Mobridge; Lester Scott and Elias Laknes, Naples; M. C. Johnson, Oldham; O. L. Carlson and B. O. Morson, Pierpont; R. Parrott, Pollock; I. N. Hurd, Hurdfield; Harry V. Lebtzou, Rockham; C. B. Satre, Veblen; Wesley Johnson, Verdon; Geo. E. Lee, Vienna; W. L. Dean, Winship, and D. S. Glanzer, Yale.

Minneapolis grain firms were represented by: A. J. Jensen, L. E. McClellan; S. L. Young, B. G. Ray, and E. W. Dittes, of Cargill, Inc.; R. M. Davies, Herb Olson, C. J. Johnson and John H. Schaefer of Hallet & Carey Co.; H. F. Peters, Frank A. Meehan, M. E. Nidenfuer, John G. Haugen, A. M. Nelson, Art N. Coll, C. J. Leasman, M. E. Coffey, R. H. Hegman, E. J. Barzen, L. S. Hatch, S. M. Culbertson, Geo. W. Banning, J. B. Seim, C. W. Hughes, A. R. Ronbeck, R. T. Paradis, R. M. Quinn, C. E. Ritten, R. L. Remund, M. R. Nelson, W. A. Dinham, R. B. Gold, C. J. Furst, F. H. Higgins, C. L. Spaulding, C. W. Ewe, R. C. Bagley, W. P. Brown, Walter Borroll, A. S. Hixon, C. L. Gande, J. V. McCarthy, Leo Barrett.

North Dakota was represented by: Charles Conaway, Sec'y. Farmers Grain Dealers Ass'n of N. D.; Bert Wanaka, Ellendale; L. J. Bohle, Forbes; Henry Schram, Lidgerwood; R. A. Chewakin, Max; R. B. Harlan and Wesley Keller, Minot.

The supply trade was represented by: Emil Fredrickson and Sig Fanger, Strong-Scott Mfg. Co.; Cliff St. Cyr, Hart-Carter Co.; J. M. Heinen

[Concluded on page 547]



Col. James T. Bradshaw, Kansas City, Mo., Deceased.

James T. Bradshaw Passes On

Col. James T. Bradshaw, Kansas City, Mo., Missouri's State Grain & Warehouse Commissioner, passed away Dec. 18 from cardiac asthma, after two weeks' illness. He was 78 years old.

Col. Bradshaw was born at Xenia, Clay County, Ill., in 1858. While still a boy, he moved with his parents to Lebanon, Mo.

Col. Bradshaw was still in his 'teens when he began newspaper work. Succeeding years found him publishing and editing many Missouri weekly and daily papers, growing influential in politics.

When the office of State Warehouse Commission was created by the Missouri legislature in 1912, the then Gov. Major appointed Col. Bradshaw to the position for a period of six years beginning with Apr. 15, 1913. This office gave him charge of Missouri's grain inspection and weighing services, which maintained facilities and laboratories at Kansas City, St. Joseph and St. Louis.

Col. Bradshaw's fair-mindedness and familiarity with grain handling problems made him beloved by all his associates, and his popularity with the grain trade contributed to his long tenure of office.

Corn Borer Slowly Spreading Westward

While the European corn borer has not been found in Illinois, continued studies of the insect under the supervision of W. P. Flint, Illinois Natural History Survey, and George H. Dungan, in co-operation with the U. S. Bureau of Entomology and Plant Quarantine and the U. S. Bureau of Plant Industry, reveal that it is slowly spreading westward.

A much larger infestation, extending over practically all the eastern counties of Wisconsin, was found during the past year. Some slight westward spread of the borer occurred in Indiana. It has been found in Kentucky at several points along the Ohio river. The northeastern and eastern areas of Illinois were scouted, but no trace of the borer was found.

Swift & Co.'s Soybean Plant

[Continued from page 541]

run ways and the Calumet buckets for the elevator and mill were supplied by B. I. Weller.

All structural steel buildings are covered with Robertson's protected metal.

Approximately 32 Morse Silent and Roller Chain drives, ranging from ¼ to 26 h.p. are installed. These are used for driving conveyors, elevator legs, car puller, drier and cooler fans and feeders.

A complete signal system is provided with an electric light for each motor mounted on a panel board in the extraction plant, so the operators may see at a glance whether any motor is off from any cause whatever.

The plant is well lighted throughout, and especial care has been given for the safety of the workers.

A modern brick office building has been provided for the office force 28 ft. by 36 ft. 6 in. in plan, and is equipped with a Celotex acoustical ceiling and a Holland Furnace Company's combination heating and air conditioning plant.

The grounds around the plant have been graded and landscaped, which gives it an air of completeness seldom found in a new plant and makes for an industry that the community may well be proud of.

The entire plant was designed and constructed by James Stewart Corporation in collaboration with W. A. Burnet and R. B. Middaugh of Swift & Company.

Ear Corn in 128 Slat Cribs

King Corn has extended his empire far beyond the Corn Belt, and even invaded North Dakota, which state produced 17,804,000 bus. of the golden cereal this year. Altho only one of the 53 counties in the state, Cass County alone produced more than 2,000,000 bus. of the state's total.

All of the corn in this county this year was well matured and merchantable, with yields ranging from 25 to 50 bus. per acre.

Emergency storage being needed to handle the early rush of the bumper crop to market 128 slatted cribs were set up as shown in the engraving herewith by the Casselton Elevator Co., at Casselton, N. D., and contained at one time 64,000 bus. of ear corn.

Some of the corn was in slat cribs (snow fence) 10 ft. wide and 8 ft. high. In the first 40 cribs set up ventilators were placed, composed of two grain doors, slatted, for center and 6-in. boards, slatted, for tubes to outside of bins.

Geo. M. Bresnahan, general manager of the elevator company, writes that "We have our corn pretty well shelled now (Dec. 13) and it is grading well, No. 2, No. 3 and No. 4, moisture being the only factor affecting the grade.

"We started cribbing corn Sept. 20, at which time it was carrying as high as 25 per cent moisture. We are pleased to report we have not had one ear of moldy corn."



64,000 Bushels of Ear Corn Are in the Casselton (N. D.) Elevator Company's Cribs. From Northwest Magazine of Northern Pacific R. R.

Grain Carriers

Erie, Pa.—The Canadian S.S. *Canadoc* has delivered 250,000 bus. of wheat from Fort William, Ont., to make the first grain cargo delivered to this port in a year.

Charter offerings for New York—Rotterdam grain trade have recently been quoted as low as 3s per quarter (480 lbs.). As late as September they were quoted as 4s 9d.

Washington, D. C.—Shippers Advisory Boards have scheduled meetings as follows: Mid-West, Jan. 6, Palmer House, Chicago, Ill.; Atlantic States, Jan. 27, Philadelphia, Pa.

American Trucking Ass'n, Inc., has petitioned to intervene in Ex-Parte 123, the current 15% rate increase of the railroads, because its members need more revenue.

Washington, D. C.—Chairman Lea of the House Com'te on interstate and foreign commerce, has tentatively fixed Jan. 11 for opening hearings on the 70 car train length limit bill.

Long Grove, Ia.—Abandonment of the 3.1 mile branch of the C. M. St. P. & P. from Eldridge Junction to here is recommended in Finance No. 11618 by Examiner J. S. Pritchard.

Washington, D. C.—Grain and grain products were loaded into 37,783 cars during the week ended Dec. 4, compared with 36,288 during the same week a year ago.—Ass'n of American Railroads.

Washington, D. C.—River and harbor improvement for navigation and flood control cost \$233,976,284, during the fiscal year ended June 30, 1937, says the annual report of Sec'y of War Harry H. Woodring.

Buffalo, N. Y.—The Cooperative G. L. F. Mills, Inc., is seeking reparation from the C. B. & Q. et al on rates applied to shipments of Japanese sardine or fish meal, Seattle, Wash., to Albany, N. Y., in May, 1937.

Muscatine, Ia.—A public hearing on the petition of the Rock Island railroad to abandon its line from Muscatine to Iowa Junction, in Iowa, will be held by the Interstate Commerce Commission here Jan. 6, 1938. Examiner Schutrumpf will be in charge.

Washington, D. C.—Net revenue of the Inland Waterways Corp., federal barge line agency, dropped to \$171,479.05 during the fiscal year ended June 30, 1937, compared with \$899,769.96 the preceding year, says Sec'y of War Harry H. Woodring's report. Why continue to operate?

Washington, D. C.—Assurance by Senator Burton K. Wheeler that the Pettengill bill will be given a full and complete hearing before his interstate and foreign commerce committee late in January has aroused hope in railroad circles for its movement to a Senate vote. The House has twice approved the bill.

Minneapolis, Minn.—Purchase of the M. & St. L. properties by the associated Railways Co. is favored in a letter to the Interstate Commerce Commission from Henry B. Day, Boston, Mass., who claims to represent slightly less than \$200,000 out of an 1887 issue of \$950,000 of M. & St. L. first mortgage 6% bonds.

Springfield, Ill.—The Uniform Motor Vehicle Laws Commission of Illinois held a hearing in Chicago on Dec. 14 to gather testimony and information on motor vehicle regulation. Hearings have been held by this commission at Springfield, Anna, East St. Louis, Belleville, Harrisburg, Peoria and Rock Island. Additional down-state hearings are expected to be scheduled.

Washington, D. C.—While the Interstate Commerce Commission granted railroads an extensive boost in freight rates on many products by ordering tariffs on file effective as of Dec. 20, it suspended, pending hearings, proposed increases on seeds in carloads between Inter-mountain and Pacific coast territories, and increases on carload shipments of animal and poultry feeds in Illinois and southern classification territories.

Chicago, Ill.—J. L. Bowlus, traffic manager for the Milwaukee Grain & Stock Exchange, Milwaukee, Wis., has been nominated for membership on the executive com'te of the Mid-West Shippers Advisory Board. Nominations for officers are: W. Y. Wildman, Chicago, for general chairman; Geo. M. Cummings, Davenport, Ia., for alternate general chairman; R. V. Craig, Chicago, for general sec'y. The Board will elect officers at its annual meeting in Chicago, Jan. 6.

Washington, D. C.—H. R. 8505, the agricultural adjustment bill now under fire, authorizes the Sec'y of Agriculture to complain to the Interstate Commerce Commission on rates, charges, tariffs, and transportation practices applying to farm products, and prosecute the complaint. The Commission would be required to notify the Sec'y of Agriculture of all cases filed involving transportation of farm products. The Sec'y would be authorized to aid cooperative ass'ns of farmers on transportation matters.

St. Louis, Mo.—At its 19th annual convention, the Mississippi Valley Ass'n adopted resolutions opposing cost increasing federal legislation affecting the rails; advocated development of all forms of transportation; urged extension of joint rail, water and truck rates; advocated elimination of unnecessary regulation of all forms of transportation and relief from unreasonable taxes; opposed regulation of port-to-port rates on water-ways; opposed any St. Lawrence seaway treaty. Former Gov. Arthur J. Weaver of Nebraska, was re-elected pres. of the ass'n.

Goderich, Ont.—The grain carrier Bricol-doc, one of the largest freighters on the Great Lakes, was taken off a bar outside Goderich harbor Dec. 5 by the steamship Maplecourt after being grounded for nearly 24 hours. The 400-ft. vessel struck Dec. 4 during a driving snowstorm, while aiming to make the harbor entrance, enroute to dock at her winter berth. She was loaded with 250,000 bus. of wheat. The cargo was undamaged, but the vessel will have to be gone over in drydock to ascertain if she has been damaged.

Washington, D. C.—Remedial legislation to aid rehabilitation of American railroads will be recommended to Congress by the Senate Com'te on Interstate Commerce as a result of its investigation of the financial structure of leading carriers. Investigation has covered the Van Sweringen system, the Chicago, Milwaukee, St. Paul & Pacific, and is under way on the Pennsylvania lines. Senator Wheeler indicated legislation would probably increase the regulatory powers of the Interstate Commerce Commission, and might lead to unwanted government ownership of rail lines, if the legislation fails to work.

Indianapolis, Ind.—The Indianapolis Board of Trade is entering a formal protest to the proposed 15 per cent advance on rates of grain and grain products in CFA territory. Our own ass'n is joining with and supporting the Board of Trade protest. While numerous rates from western points have been equalized or adjusted to Indiana and other CFA points, we in Central Freight Ass'n territory have received no reductions on grain and grain products for years. A 15% increase on these now would make our relation with many western rates farther apart than they are at present.—Fred Sale, sec'y, Indiana Grain Dealers Ass'n.

Portland, Ore.—Federal Judge James Alger Fee held in a written opinion Nov. 23 that the Oregon-Washington Railway & Navigation Co. cannot collect interstate rates on grain which was intended by the growers only for intrastate commerce. The opinion was rendered in the suit of the railroad company against the Farmers National Grain Corp., in which the railroad sought to collect interstate grain rates on wheat which was shipped from Pendleton to Portland and later to other states. The court held the railroad company could not by the device of segregating shipments into interstate and intrastate lots, hold the growers responsible after their wheat reached their market in Portland.

Walla Walla, Wash.—To circumvent the proposed increases in freight rates (not granted but anticipated) which will prove costly to eastern Oregon, Washington, northern Idaho and western Montana grain growers, an effort is being made to bring cheap water transportation to the interior thru river transportation. A brief will be filed with the Board of Army Engineers in Washington, D. C., Jan. 11, declared Herbert G. West, executive vice-pres. of the Inland Empire Waterways Ass'n. Improvement of the Columbia and Snake rivers to make them navigable is proposed. A com'te will leave for Washington Jan. 2 to present the brief. With the com'te will go J. J. Edwards of the North Pacific Grain Growers to seek re-establishment of a federal export marketing agency to relieve surplus northwest wheat.

Grain Rates Postponed

A 90-day postponement of the effective date for the new C.F.A. grain rates ordered by the Interstate Commerce Commission has been granted upon petition of Western Trunk Line carriers.

The postponement pushes the effective date forward from Jan. 15 to Mar. 15. A petition for rehearing of the case, Docket 15,037, is expected.

The petition for postponement said that "the decision will seriously affect the relationship of rates from country origins thru the primary markets of Minneapolis, Sioux City, Kansas City and Omaha, thus disrupting the adjustment prescribed by the commission in the Western Grain case. It will require a detailed rate check of the local rates from Iowa and Missouri points, also of rates from points west of the Missouri River, including Oklahoma and Texas, applying via routes not operating thru rate break markets."

Immediate Rail Rate Boost Denied

A motion by American railroads, fighting at a hearing before the Interstate Commerce Commission in Washington, D. C., for a 15 per cent increase in freight rates, that the increase be authorized on five days' notice, was denied by the Interstate Commerce Commission. The denial followed tacit approval by President Roosevelt of any plan short of government subsidization, that would return the carriers to a profitable basis.

The President's approval followed his conference with Jesse Jones, chairman of the Reconstruction Finance Corp., who has flatly endorsed the plea of the carriers for higher rates, contending failure to grant the increase may force some of the carriers to ask for further loans from the government.

It is anticipated that railroads owing money to the Reconstruction Finance Corp. may be given a "crutch" in the form of small additional loans in expectation of a general increase in freight rates about Apr. 1.

Hearings on the 15 per cent rate increase, known as ex parte 123, will be held by the Interstate Commerce Commission at the Hotel Morrison, Chicago, Jan. 10, at Salt Lake City the same date, and on Jan. 17 at Portland, Ore., and Washington, D. C.

Asked—Answered

[Readers desiring trade information should send query for free publication here. The experience of brother dealers is most helpful. Replies to queries are solicited.]

Uniformity in Federal Dockage Testers?

Grain & Feed Journals: In the Journal May 12, 1937, page 391, I read an article in which I am interested in my capacity as agricultural engineer, entitled "Lack of Uniformity in Federal Dockage Testers." What was the source of the article?

What is your opinion as to the efficiency of the federal dockage testers?—Jorge P. Nielsen, Buenos Aires, Argentina.

Ans.: The article emanated from the United States Government Bureau of Agricultural Economics, General Field Headquarters of the Federal Grain Supervision.

As to the efficiency of the federal dockage tester, it is not fool-proof. If care is taken to see that the sieves are not sticky, and with proper spring tensions and proper rate of flow of the feed the motor driven tester is believed to give uniform results.

Notice of Chattel Mortgage?

Grain & Feed Journals: We are of the impression that a mortgage holder must notify a milling company regarding his mortgage on grain in order to protect himself.

Our miller says there is some statute to that effect. We have not been able to get any information on the matter, and would appreciate it if you would advise us as to the status.—Wark Milling Co., Cortez, Colo.

Ans.: The holder of the chattel mortgage has no protection unless he notifies the buyer or records the mortgage with the county recorder. Recording is notice to all whom it may concern.

The law of Colorado is so drastic that only an ignorant person or one who expected to flee the state would sell mortgaged chattels without fully informing the buyer of the prior mortgage.

Chap. 107, Sec. 5084, compiled laws of Colorado, provides that chattel mortgages shall be recorded.

Sec. 5094 requires the county recorder to keep separate index books for chattel mortgages, "alphabetically and scientifically arranged."

Sec. 5096 gives purchaser of mortgaged property right to sue seller and recover twice the value of the property so sold.

Sec. 5097 deems sale by mortgagor of mortgaged personal property larceny as "tho there had been a felonious taking and conversion of such property," unless the mortgagor at time of sale fully acquaints the person to whom such sale or transfer is made, with the facts of the prior encumbrance and mortgage.

Switching at Country Station?

Grain & Feed Journals: Our town is served by the C. C. C. & St. L. Railroad, and the Illinois Central Railroad. We are located on the siding which is connected with the Illinois Central Railroad.

Quite often we can make sales to a better advantage for shipment with the C. C. C. & St. L. than with the I. C. Also quite often we can make purchases of feed to arrive on a better basis by using the C. C. C. & St. L.

So far in these few instances the switches have been made, but now they tell us it is entirely up to the I. C. agent, and he is not in favor of doing the switching.

Can we force the I. C. to make the switches to and from the other railroad? Doesn't the Commerce Commission force them to do this work?—E. H. Morris Elevator, Robert Morris, Grayville, Ill.

Ans.: The Chicago rate clerks of both the Big Four and the Illinois Central agree in stating that a reciprocal switching arrangement is in effect at Grayville, each road absorbing the switching charge on a shipment originating at an industry on the line of the other railroad company.

There should be no difficulty whatever in E. H. Morris Elevator moving grain out or feed in over the C. C. C. & St. L., and at no extra charge.

This is covered by Illinois Central Tariff 1-C, and Big Four Tariff item 50, page 25, I-N, I. C. C. No. 8785.

The Illinois Central charge for switching at Grayville is 13 cents per ton, minimum \$2.70, maximum \$4.95; but the shipper does not pay this, as it is absorbed by the Big Four in its charge for the road haul.

The Commerce Commission does not force the carriers to do this work.

Final Grade Governs?

Grain & Feed Journals: We wish to ask your opinion on the following transaction. We shipped wheat to a Blank Company at Toledo, for storage, to be sold later on. On each car we were sent the following grading and description.

"We have in store for your account, Car Blank, Blank, which graded No. 5 Red Wheat, 52.1 lbs. test, 14% moisture, unloaded Blank No. Blank bu., discount 13c. When you get ready to sell this grain, please get in touch with us."

Later on in the year they changed their grading and discounts on wheat, and when they settled with us they settled on the new grades and discounts. We believe that this wheat should have been settled for on the grade and discount quoted us at the time of shipment. Are we right or wrong? We would appreciate an early reply.—Waldo Elevator Co., C. N. Briggs, Waldo, Ohio.

Ans.: As long as the grain was not to be sold until later on, any deterioration or improvement in grade while held in store for shipper's account was at the risk, loss or benefit of the owner-shipper.

Any buyer, whether the original receiver, or another if handled by him as a consignment, is entitled to the final grading. He will refuse to buy it except on latest inspection.

In his advice to shipper receiver plainly stated "for your account." Thus the grain in the Toledo elevator was at all times the prop-



Christmas Is in the Heart!

Christmas is in the heart, my dear,
What'er the world may say;
And you must radiate good cheer
On this auspicious day;
Or else the meaning of it all
Will turn to wormwood and to gall,
With loss on Life's Highway.

You may not have a tree to trim,
Or a gift that you can give;
Your pocket-book may be most slim,
But make this message live—
By proving with your smile and word
This day's true meaning to you have heard:
Christmas is in the heart!

We all need joy and kindness,
We all need love and cheer;
These treasures of true friendliness
Are gifts without a peer;
And they are gems within ourselves
That we can all impart:
Christmas is in the heart, my dear,
CHRISTMAS IS IN THE HEART!

Eva M. Armistead.

erty of the shipper who bears all the responsibility of an owner. The original grading and market discount was stated for information only of shipper, and subject to change, and not as a basis for settlement on a later sale.

Coming Conventions

Trade conventions are always worth while, as they afford live, progressive grain dealers a chance to meet other merchants from the same occupation. You can not afford to pass up these opportunities to cultivate friendly relations and profit by the experience and study of others.

Jan. 24-25. Indiana Grain Dealers Ass'n, Indianapolis, Ind.

Feb. 1, 2, 3. North Dakota Farmers Grain Dealers Ass'n, Fargo, N. D.

Feb. 9, 10. Farmers Grain Dealers Ass'n of Illinois, Marquette hotel, Peoria, Ill.

Feb. 16, 17, 18. Farmers Elevator Ass'n of Minnesota, Minneapolis, Minn.

Feb. 22. Pacific Northwest Feed Ass'n, Seattle, Wash.

Feb. 22, 23. Farmers Grain Dealers Ass'n of Ohio, Toledo, O.

March 27, 28, 29, 30. Society of Grain Elevator Superintendents of North America, Kansas City, Mo.

May 9, 10. Illinois Grain Dealers Ass'n, Danville, Ill.

May 13. Oregon Feed Dealers Ass'n at Portland, Ore.

May 31-June 1. Pacific States Seedsmen's Ass'n, Portland, Ore.

Japan.—Official estimates place the Japanese wheat crop at 50,410,000 bus., compared with 45,000,000 last year, and 49,000,000 two years ago.

Holland imported 19,392,000 bus. of wheat during the 10 calendar months ending October 31, compared with 16,568,000 bus. during the same period in 1936.

France.—While not officially estimated, government sources expect the French wheat crop to total 248,000,000 bus. French annual requirements are 272,000,000.



J. C. Mullaney, Sioux City, Ia.
Pres. Board of Trade

Letters from the Trade

[The grain dealers' forum for the discussion of grain trade problems, practices and needed reforms or improvements. Dealers having anything to say of interest to members of the grain trade are urged to send it to the Journals for publication.]

Grain Markets on WLW

Grain & Feed Journals: Radio station WLW, Cincinnati, has acceded to my request to broadcast the Chicago grain markets, and at present these are on the air at 11:00 a. m. and 12:30 p. m. during the week, except the second broadcast on Saturday. Arrangements may be made later which will enable them to put the grain markets on the air at additional times than these hours mentioned.—Fred K. Sale, sec'y, Indiana Grain Dealers Ass'n.

Freight Increases Will Increase Trucking

Grain & Feed Journals: I would like to see lower freight rates to combat the truckers. It is obvious that any advance in freight rates will increase the amount of business going to trucks.

I would like also to have lower freight rates to the Southeastern markets, thus affording this section of the country a better outlet for its surplus grain and grain products. Aside from these two points our problems are transits and routings.—G. E. Blewett, sec'y, Texas Grain & Feed Dealers Ass'n.

Your Price for Corn

Grain & Feed Journals: Most of the elevator boys are misled by the prices which they hear other elevators are offering to pay for grain. To illustrate, this morning Westfield said that Noblesville was paying 54c cwt. for corn. This was only half the story because in talking to Noblesville we found that 54c cwt. was paid for No. 4 Yel. Corn and they would not accept corn of a lower grade. In this case 54c would be all right, but that does not necessarily mean that our elevators should take it to mean 54c for mine-run corn. We have found in several instances where the managers do not learn the entire story about a price. This is also true in the Portland territory. Get the complete facts before you make up your mind that you must follow each and every fool price that is on the market.—Goodrich Bros. Co., Winchester, Ind.

Winnipeg, Man.—The Canadian Wheat Board announced on Dec. 8 that it had sold the last of the wheat it held for export trade. The sale ended the Dominion government's responsibility in financing past stabilization efforts.

Percentage of Original Weight Lost in Drying

When grain is dried from a certain moisture content to another moisture content the loss in weight is not, as some suppose, the difference between the two moisture contents, before and after drying; but a greater percentage, because the final percentage is figured on a smaller gross weight.

For example, in drying corn with an original moisture content of 25 per cent down to a content of 20 per cent the percentage of the original weight lost is not the difference of 5 per cent, but 6.25 per cent as shown in the table herewith, in which the original moisture content appears at the left and the final moisture content above each vertical column.

Using this table obviates the mental subtraction required in using the government table reproduced in part on page 366 of Oct. 27 number of the Journal.

Revised Readings for Moisture Meter

The electric moisture testers have been in use on only four corn crops, all of which have had abnormal quality in one or several respects. The 1934 crops was relatively dry due to drought and high temperatures during the growing and harvesting seasons. The 1935 crop was materially damaged as the result of late spring plantings and late fall rains and snow. The early marketings of 1936-crop corn were of high moisture content with many lots showing unevenness in moisture content, whereas late-season marketings contained relatively low moisture. The relatively high and uneven moisture content of the early marketings in 1936 is believed to have been caused by the early-season use of many mechanical corn pickers and by early shelling of mechanically-picked corn. The 1937 crop at this time (Dec. 1) is characterized by an unusually early movement of new-crop soft corn of relatively high and uneven moisture content which has an electrical resistance different than that of corn of the same moisture content of previous crops. This early 1937 crop movement was occasioned in part by a material increase in the number and use of mechanical corn pickers, as well as field corn shellers, which were used to facilitate an early movement of corn to market to take advantage of the early-season high prices. Such corn does not have a chance to cure and mature as does corn hand picked from the stalks, and its electric resistance, therefore, is less than that of corn hand picked from the stalks.

Issuance of Revised Corn Chart.—For the above reasons, and in the interest of accurate

moisture determinations with such corn, it was considered desirable early in October, 1937, to advise all users of electric moisture testers that new values had been assigned to the meter readings when made on the "A," "B," and "X" taps when used in conjunction with Chart XIII of the revised handbook of instructions issued July, 1936, for operating the Tag-Heppenstall Moisture Meter. These revised values for meter readings on the "A," "B," and "X" taps improve accuracies for early-marketed, high-moisture corn, and do not affect the accuracy of the readings on field or crib-cured corn that does not have high moisture content.

Miller Wins Processing Tax Decision

The right of D. V. Johnson, Nashville, Tenn., flour blender, to recover processing taxes from the Scott County Milling Co., Sikeston, Mo., was denied by Judge Charles B. Davis in the federal court at St. Louis.

Involved was the tax clause in the 1934 uniform sales contract of the Millers National Federation. The opinion sustained the argument of the Scott County Milling Co. that the buyer is not legally or equitably entitled to recover processing taxes. Said the court:

Where a product is sold at a specified price and a tax is not levied against the purchaser but against the seller and the tax is "buried in the price," the buyer cannot recover from the seller even though the seller may be relieved from the payment of the tax, which was included as a part of his cost.

Where, as in the instant case, the alleged tax sought to be recovered was not levied against the buyer or was not billed as a separate item, the tax, although included in defendant's cost, was "buried in the price" and plaintiff cannot recover even tho the defendant may have been relieved from the payment thereof because of the unconstitutionality of the act authorizing the levy of the tax.

Regina, Sask.—Crop insurance, by which was meant protection from "all those calamities that render the labor of our people abortive," supported by the Dominion government, has been urged upon the Royal Grain Commission by the Saskatchewan Rural Ass'n.

Percentage of Original Weight Lost in Drying Grain

Orig. Mois.	Final Mois. 20%	Final Mois. 19%	Final Mois. 18%	Final Mois. 17%	Final Mois. 16%	Final Mois. 15%	Final Mois. 14%	Final Mois. 13%	Final Mois. 12%
35%	18.75	19.75	20.73	21.69	22.62	23.53	24.42	25.29	26.14
34%	17.50	18.52	19.51	20.48	21.43	22.35	23.26	24.14	25.00
33%	16.25	17.28	18.29	19.28	20.24	21.18	22.09	22.99	23.86
32%	15.00	16.05	17.07	18.07	19.05	20.00	20.93	21.84	22.73
31%	13.75	14.82	15.85	16.87	17.86	18.82	19.77	20.69	21.59
30%	12.50	13.58	14.63	15.66	16.67	17.65	18.60	19.54	20.46
29%	11.25	12.35	13.41	14.46	15.48	16.47	17.44	18.39	19.32
28%	10.00	11.11	12.20	13.25	14.29	15.29	16.28	17.24	18.18
27%	8.75	9.88	10.98	12.05	13.10	14.12	15.12	16.09	17.05
26%	7.50	8.64	9.76	10.84	11.90	12.94	13.95	14.94	15.91
25%	6.25	7.41	8.54	9.64	10.71	11.76	12.79	13.79	14.78
24%	5.00	6.17	7.32	8.43	9.52	10.59	11.63	12.64	13.64
23%	3.75	4.94	6.10	7.23	8.33	9.41	10.47	11.49	12.50
22%	2.50	3.70	4.88	6.02	7.14	8.24	9.30	10.34	11.36
21%	1.25	2.47	3.66	4.82	5.95	7.06	8.14	9.20	10.23
20%	....	1.23	2.44	3.61	4.76	5.88	6.98	8.05	9.09
19%	....	....	1.22	2.41	3.57	4.70	5.81	6.90	7.95
18%	....	....	....	1.20	2.38	3.53	4.65	5.75	6.82
17%	....	....	....	....	1.19	2.35	3.49	4.60	5.68
16%	....	....	....	....	....	1.18	2.33	3.45	4.54
15%	....	....	....	....	....	....	1.16	2.30	3.41

Crop Reports

Reports on the acreage, condition and yield of grain and field seeds are always welcome.

Pasco, Wash.—Wheat prospects are excellent thruout Franklin County. Winter wheat is well sprouted in most fields. Acreage is greater than it has been for several years.—F. K. H.

Wichita, Kan., Dec. 11—It is surprising how little corn is accumulating at terminal markets. In the back ground we have a serious condition from drouth in the major U. S. winter wheat area—possibly the average worst on record.—Smith-McLinden Grain Co.

Boonville, Ind.—Growing wheat in Warrick County and adjoining counties is looking quite promising. The freezing weather that started along about December 13 and lasted several days, is not believed to have damaged the crop. For several days the fields were covered with a coating of ice.—W. B. C.

Chicago, Ill., Dec. 8—Much winter wheat is up to a good stand with favorable soil conditions but there are considerable areas in western Kansas and adjoining territory where there is a lack of moisture. On the whole the condition of the wheat crop is less favorable than a year ago at this time. Citrus fruit from California and Arizona at the present time promises an average yield.—S. T. Bledsoe, pres. A. T. & S. F. Railway Co.

Dodge City, Kan., Dec. 15.—With high relative humidity little moisture has been lost thru evaporation, and in compiling the report of fall and winter moisture for the state, we are pleased that the report shows a little improvement over a year ago. Precipitation for the July-November period for the entire state averaged 74% of normal as compared with 71% for the same period last year.—Kansas Grain, Feed & Seed Dealers Ass'n.

Fort Worth, Tex., Dec. 16.—I have made several trips over North Texas recently and I never saw wheat and oats looking so good. Just like a carpet. Plenty of subsoil moisture around here too. Dry tho in the Panhandle especially north of Tulsa where moisture is badly needed. Some snow there Dec. 13th but not near enough. Western Oklahoma and Kansas are also needing moisture.—G. E. Blewett, sec'y., Texas Grain and Feed Dealers Ass'n

Bluffton, Ind.—The corn in Wells County is turning out very poor, both in yield and quality, and is bringing fifty cents per hundred at the elevator. The wet weather had its effect on all crops in Wells County this year. A majority of the corn and soy-bean fields had water in them during most of the growing season and this cut the yield over the entire county. The soy bean harvest has been completed; the yield has been fair, averaging about eighteen bushels to the acre.—A. F. M.

Kansas City, Mo., Dec. 10—Average protein of 709 cars of all classes of wheat tested during November by the Kansas City offices of the Kansas grain inspection department was 13.38% and 940 cars inspected by Missouri averaged 12.95%. An average of 13.09% is shown on the Kansas inspections of 23,330 cars during the first five months of the crop year, against 14.06% on 11,403 cars in the same months a year ago. The Missouri department reports an average of 12.72% protein on 20,466 cars tested July through November, against 13.44% on 13,132 cars in a like period last year.

Decatur, Ill., Dec. 18.—Winter wheat has no snow covering in this territory. Sleet and ice covering are very unfavorable to crop prospects. Country roads have been impassable for delivering corn. Feeding on the farms is heavy, as the corn, hog and cattle feeding ratio is very favorable. Some country stations in Illinois this week paid 50 cents for No. 3 grades of corn to farmers, which was supposed to be the pivotal price that would bring out a large amount of corn. However, the amount sold was comparatively small; icy condition of roads making immediate deliveries impossible, as well as growers changing their mind, accounts for not more corn being sold.—Baldwin Elevator Co.

Ames, Ia., Dec. 13—Iowa farmers this year produced an unusually large amount of barley good enough to make the "malting" grade and earn premium prices. During two months, August and September, for which complete records are now available, 432 carloads of Iowa barley graded in the malting subclass when marketed. At the same time only 30 carloads of barley were designated as "blighted" on official inspection certificates. The proportion of barley in the malting grade is the highest in several years. Iowa's 1937 barley crop is estimated at 13,361,000 bus.—E. J. Dyas, Iowa State College extension agronomist.

Chicago, Ill., Dec. 9—The area seeded to winter wheat this fall is estimated to be 57,530,000 acres, or 100% of the government's preliminary estimate of the area sown a year ago. It is the heaviest on record, a preliminary estimate of last year's being 57,187,000. The crop is entering winter with condition below average, the December 1 condition being 77.8% of normal. Present acreage and conditions suggests a crop of about 697 million bushels. The area seeded to rye this fall is estimated to be about 6.2% less than the area sown last year, or a total of about 7,290,000 acres. Condition of the plant on December 1 was about 81% of normal.—Nat C. Murray, statistician, Clement, Curtis & Co.

Kansas City, Mo., Dec. 16.—Since our report of Nov. 2 some beneficial moisture has been received over the entire state, but again the amount for the period has added to the year's deficiency and the moisture that has been received was a necessity for starting the late planted and reseeded wheat over a wide section. The sub-soil deficiency has increased and continued moisture is urgently needed. A weak, spindly wheat plant that is not well rooted cannot withstand the hardships of severe winter weather and become hardy and productive with only the spring growing season to bring it out. We have checked rather carefully and still believe the maximum planted acreage for 1938 harvest will not exceed fifteen million acres.—H. L. Robinson, K. B. Latto, Robinson Elvtr. Co.

Washington, D. C., Dec. 21.—The U. S. Dept. of Agriculture today reported the acreages for the 1937-38 crops to be 57,492,000 for winter wheat and 6,889,000 for rye. The acreages of the 1937 crops were 57,612,000 for winter wheat and 7,593,000 for rye. Condition of the growing crop Dec. 1, 1937, was 76% of normal for wheat and 74% for rye. Kansas' acreage of winter wheat is 17,446,000, against 17,105,000, and condition 73, against 80%.

Winchester, Ind., Dec. 18.—The snow is gone, weather has turned warm and we have had rain for 48 hours. Not a hard rain, but kept constantly at it. Drove to Indianapolis yesterday, the wheat fields could not look any better. The blanket of snow that was on it for two weeks kept it in nice shape. Nothing to protect it now, but the ground is saturated with water. Corn is moving in good volume, but the moisture is again high on account of the excess rain. A good deal of it is coming in out of open cribs. Farmers had so much corn this fall they turned to mechanical pickers and they just take a little of the shuck off. This corn is not in good condition. Looks as tho our county would average 50 bu. to the acre. That is more than twice what it averaged per acre last year. Indiana will produce the largest yield per acre she ever has.—Goodrich Bros. Co., P. E. Goodrich, pres.

Average Crop of Grain Sorghums

Washington, D. C., Dec. 18.—The U. S. Dept. of Agriculture reports the crop of grain sorghum to be 2,000,000 bus. greater than estimated in November and 42 million larger than last year is reported for 1937. Yield for all purposes is given at 97,097,000 bus., compared with 55,079,000 in 1936 and 97,760,000 the 5-year (1923-32) average. Acreage harvested this year was 7,379,000; 1936, 6,878,000; 5-year average, 7,016,000. This year's yield per acre was 13.2 bus., against 8 in 1936 and 14.7 the 5-year average.

United States Grain Crops for 52 Years

Estimates of the U. S. Department of Agriculture of wheat, corn, oats, rye and barley crops of the United States from 1886 to 1937, in bushels, are as follows:

	Winter	Wheat Spring	All	Corn, All	Oats	Rye	Barley
1886...			513,540,000	1,782,767,000	682,312,000	23,854,000	73,503,000
1887...			490,761,000	1,604,549,000	696,175,000	22,548,000	72,395,000
1888...			423,867,000	2,250,632,000	773,139,000	28,417,000	75,980,000
1889...			504,370,000	2,294,289,000	831,047,000	29,524,000	80,790,000
1890...			449,042,000	1,650,446,000	609,122,000	26,378,000	69,880,000
1891...			677,543,000	2,335,804,000	836,789,000	29,541,000	94,160,000
1892...			611,854,000	1,897,412,000	721,824,000	28,718,000	95,170,000
1893...			505,795,000	1,900,401,000	707,129,000	26,700,000	87,109,000
1894...			541,873,000	1,615,016,000	750,009,000	26,758,000	74,211,000
1895...			542,119,000	2,534,762,000	924,858,000	29,636,000	104,475,000
1896...			522,963,000	2,671,048,000	774,929,000	31,858,000	97,479,000
1897...			606,202,000	2,287,628,000	829,525,000	31,137,000	102,575,000
1898...			768,148,000	2,351,323,000	842,205,000	29,062,000	98,174,000
1899...			655,143,000	2,645,796,000	937,173,000	26,001,000	118,161,000
1900...			599,315,000	2,661,978,000	945,483,000	27,413,000	96,588,000
1901...			762,546,000	1,715,752,000	799,812,000	30,773,000	123,800,000
1902...			686,959,000	2,773,954,000	1,076,899,000	39,877,000	146,207,000
1903...			663,115,000	2,515,093,000	885,469,000	28,932,000	149,335,000
1904...			555,571,000	2,686,624,000	1,011,556,000	28,461,000	166,103,000
1905...			706,026,000	2,954,148,000	1,104,395,000	31,173,000	171,639,000
1906...			740,509,000	3,032,910,000	1,022,715,000	29,609,000	179,148,000
1907...			628,764,000	2,613,797,000	801,144,000	28,247,000	150,584,000
1908...			642,818,000	2,566,742,000	829,308,000	28,650,000	170,780,000
1909...	417,796,000	266,131,000	683,927,000	2,611,157,000	1,013,909,000	30,083,000	173,069,000
1910...	429,875,000	195,601,000	625,476,000	2,852,794,000	1,106,162,000	29,098,000	142,419,000
1911...	428,740,000	189,426,000	618,166,000	2,474,635,000	885,527,000	31,398,000	145,074,000
1912...	402,703,000	327,308,000	730,011,000	2,947,842,000	1,353,273,000	37,911,000	196,927,000
1913...	501,239,000	249,862,000	751,101,000	2,272,540,000	1,039,131,000	40,390,000	158,820,000
1914...	670,945,000	226,542,000	897,487,000	2,523,750,000	1,066,328,000	42,120,000	177,712,000
1915...	640,565,000	368,072,000	1,008,637,000	2,829,044,000	1,435,270,000	46,751,000	206,976,000
1916...	456,118,000	178,454,000	634,572,000	2,425,206,000	1,138,969,000	43,089,000	159,157,000
1917...	389,956,000	229,834,000	619,790,000	2,908,242,000	1,442,519,000	60,321,000	182,209,000
1918...	556,506,000	347,624,000	904,130,000	2,441,249,000	1,428,611,000	83,421,000	225,067,000
1919...	748,460,000	203,637,000	952,097,000	2,678,541,000	1,106,603,000	78,659,000	131,086,000
1920...	613,227,000	230,050,000	843,277,000	3,070,604,000	1,444,291,000	61,915,000	171,042,000
1921...	602,795,000	216,171,000	818,964,000	2,928,442,000	1,045,270,000	61,023,000	132,702,000
1922...	571,459,000	275,190,000	846,649,000	2,707,306,000	1,147,905,000	100,986,000	152,908,000
1923...	555,299,000	204,183,000	759,482,000	2,875,292,000	1,227,184,000	55,961,000	158,994,000
1924...	571,558,000	268,533,000	840,091,000	2,298,071,000	1,424,422,000	59,076,000	167,314,000
1925...	401,116,000	268,026,000	669,142,000	2,853,083,000	1,410,336,000	42,779,000	192,779,000
1926...	631,950,000	201,594,000	833,544,000	2,574,511,000	1,141,941,000	35,361,000	164,467,000
1927...	547,666,000	327,067,000	874,733,000	2,677,671,000	1,093,097,000	52,111,000	240,057,000
1928...	577,417,000	335,544,000	912,961,000	2,714,535,000	1,318,977,000	38,591,000	329,625,000
1929...	586,055,000	326,125,000	912,180,000	2,535,546,000	1,118,414,000	35,482,000	280,242,000
1930...	631,205,000	258,497,000	889,702,000	2,065,273,000	1,277,379,000	46,275,000	303,752,000
1931...	817,962,000	114,259,000	932,221,000	2,588,509,000	1,126,913,000	22,290,000	198,543,000
1932...	478,291,000	267,497,000	745,788,000	2,906,873,000	1,246,548,000	40,639,000	302,042,000
1933...	550,792,000	178,183,000	728,975,000	2,351,658,000	731,500,000	21,150,000	155,825,000
1934...	405,552,000	91,877,000	496,929,000	1,377,126,000	525,889,000	16,045,000	118,348,000
1935...	465,319,000	161,025,000	626,344,000	2,296,669,000	1,194,902,000	58,597,000	285,774,000
1936...	519,013,000	107,448,000	626,461,000	1,524,317,000	789,100,000	25,554,000	147,452,000
1937...	685,102,000	188,891,000	873,993,000	2,644,995,000	1,146,258,000	49,449,000	219,635,000

Grain Movement

Reports on the movement of grain from farm to country elevator and movement from interior points are always welcome.

Hallam, Neb., Dec. 20.—Practically no grain movement. We need moisture very badly, looks as if we will go into another dry year.—William Busk & Son.

Stratford, Tex.—Very little of this year's milo has been sold by the farmers, much of it is in the head and some thrashed and in bins. Milo maize was practically the only grain crop raised in this territory this year.—L. P. Hunter, R. E. Roberts Grain Co.

Sidney, O., Dec. 16.—After a good early movement of new corn, receipts have been very light during December. Farmers are holding for higher price. Stocks of wheat and oats are much below normal.—E. T. Cusenbolder, E. T. Cusenbolder & Co.

Milwaukee, Wis., Dec. 9.—Receipts and shipments of grain by lake at and from Milwaukee during the year 1937, in bushels, follows: receipts, wheat, 65,000; barley, 1,158,928; shipments, wheat, 4,726,966; oats, 186,500.—H. A. Plumb, sec'y Milwaukee Grain & Stock Exchange.

Galveston, Tex.—Grain receipts and shipments in bushels for the month of November, 1937, as compared with November, 1936, are as follows: 1937, wheat, 3,939,500; kafir, 24,000; milo, 10,500; for 1936, no report; shipments, 1937, wheat, 2,979,159; kafir, 12,857; for 1936, no report.—Geo. E. Edwardson, chief grain inspector Galveston Cotton Exchange.

Fort William, Ont., Dec. 9.—A report of lake shipments during the season of navigation for 1937 as compared to 1936, in bushels, follows: for 1937, wheat, 78,872,629; durum wheat, 10,358,261; oats, 5,938,342; barley, 16,120,384; flaxseed, 40,147; rye, 1,679,241; screenings, 33,127 tons; for 1936, wheat, 166,809,142; durum wheat —; oats, 11,943,577; barley, 19,776,979; flaxseed, 569,983; rye, 4,565,082; screenings, 63,844 tons.

San Francisco, Cal.—Receipts and exports of grain for the month of November, 1937, as compared with the same month in 1936, in bushels, are as follows: receipts, 1937, wheat, 304,000; barley, 592,957; oats, 61,875; corn, 11,430; bran, 240 tons; hay, 276 tons; for 1936, wheat, 5,300; barley, 170,791; oats, 30,000; corn, blank; bran, 30 tons; hay, 144 tons; exports, 1937, barley, blank; 1936, barley, 139,666 bushels.—James J. Sullivan, chief inspector Chamber of Commerce.

Kansas City, Dec. 5.—For about the first time in eight years, excepting occasional business to Mexico, workings of corn for export

were made by Kansas City handlers today. An amount estimated at 200,000 bus. was taken by exporters, the transactions being understood to have been on the basis of 8c over Chicago May for No. 2 yellow, delivered the Gulf. Some of the corn is expected to be loaded promptly and all will be moved during December. The grain will go from Gulf ports.

Portland, Ore., Dec. 11.—Portland, and her wheat shipping sisters, Vancouver and Longview, shipped 90,254 bushels of wheat to Switzerland during the past week, something new in the port's annals. The total shipments for the week from Columbia river totaled 1,003,051 bushels. United Kingdom was the largest purchaser taking 525,532 bus.: Atlantic coast, second, taking 290,833 bus. Bolivia took 5,173 barrels of flour. Wheat shipments from Puget Sound were 294,435 bus., most of it to England.—F. K. H.

Decatur, Ill., Dec. 11.—Country offerings of corn are light, primary receipts not as heavy as in past weeks, but are still above consumption needs which only average about 700,000 bus. daily. A fair amount of corn has been accumulated in the terminals and there is a big surplus in the country above normal requirements. Cold weather will increase feeding of corn which is already heavy. Estimates are that 8 per cent of the Illinois corn crop will be pledged as security for government loans.—Baldwin Elevator Co.

Duluth, Minn.—Arrivals of corn made sharp gains for winter storage and interests promise to continue bringing it in here thruout the winter. Oats and wheat also show fair arrivals, but the rest of the coarse grains fall far behind. Elevator stocks since the close of lake shipping have increased near the 1,500,000 bus. mark and owners of houses hope the prevailing price spreads with outside markets will remain and permit a continuance of a large steady in movement to increase elevator holdings for spring withdrawals.—F. G. C.

Peoria, Ill.—Receipts and shipments of grain in November, 1937, as compared with November, 1936, in bushels, follows: receipts in 1937, wheat, 1,110,000; corn, 3,621,500; oats, 230,000; rye, 115,000; barley, 224,600; mill feed, 10,210 tons; for 1936, wheat, 96,500; corn, 1,498,100; oats, 102,000; rye, 124,800; barley, 308,800; mill feed, 10,400 tons; shipments, for 1937, wheat, 136,400; corn, 1,661,500; oats, 182,000; rye, 9,600; barley, 141,400; millfeed, 14,202 tons; for 1936, wheat, 124,800; corn, 608,000; oats, 166,000; rye, 3,600; barley, 165,200; millfeed, 12,845 tons.—John R. Lofgren, sec'y Board of Trade.

Duluth, Minn.—Receipts and shipments in grains for November, 1937, compared with the same month in 1936, in bushels, were as follows: receipts for 1937, wheat, 4,068,378; corn, 3,368,650; oats, 1,910,732; rye, 201,548; barley, 2,656,892; flaxseed, 126,702. For 1936, receipts: wheat, 2,148,642; corn, 53,087; oats, 13,941; rye, 109,338; barley, 1,655,185; flaxseed, 195,052. Shipments, 1937, wheat, 4,132,369; corn, 1,057,082;

oats, 2,476,043; rye, 921,995; barley, 1,457,540; flaxseed, 537,303; 1936, wheat, 3,329,093; corn, 15,714; oats, 1,847,166; rye, 551,743; barley, 983,287; flaxseed, 210,743.—Chas. F. Macdonald, sec'y Board of Trade.

New York, N. Y.—Grain receipts and shipments for the month of November, 1937, as compared with November, 1936, in bushels, were as follows: 1937, wheat, 3,443,833; corn, 1,297,912; oats, 260,012; rye, 543,615; barley, 240,474; flaxseed, 16,800; millfeed, 40 tons; for 1936, wheat, 2,416,628; corn, 750,000; oats, 107,150; rye, 1,700; barley, 1,700; flaxseed, 886,800; millfeed, 48 tons; shipments, for 1937, wheat, 1,125,000; corn, 295,000; oats,; rye, 310,000; barley, 346,000; clover seed, 2,588; millfeed, 123 tons; for 1936, wheat, 944,000; clover seed, 2,600.—Dept. of Information & Statistics, Produce Exchange.

Ft. William, Ont.—Report of grains received and shipped during the month of November, 1937, compared with November, 1936, follows: for 1937, receipts, wheat, 10,384,936; corn, blank; oats, 1,433,737; rye, 77,936; barley, 1,403,959; flaxseed, 30,935; mixed grain, 11,214; for 1936, wheat, 10,587,301; corn, 54,950; oats, 765,738; rye 159,028; barley, 1,947,565; flaxseed, 86,443; mixed grain, 19,937. Shipments for 1937 were: wheat, 17,817,242; corn, 9,602; oats, 853,346; rye, 25,217; barley, 2,969,671; flaxseed, 86,936; mixed grain, 5,496; for 1936, 27,333,951; corn, 24,251; oats, 2,461,522; rye, 613,961; barley, 5,117,114; flaxseed, 145,047; mixed grain, 3,801.—E. A. Ursell, statistician Board of Grain Commissioners for Canada.

St. Louis, Mo.—Receipts and shipments of grain for the month of November, 1937, as compared with the same month, 1936, in bushels, follows: receipts for 1937, wheat, 1,356,000; corn, 3,486,500; oats, 364,000; rye, 37,500; barley, 160,000; soybeans, 398,400; kafir, 33,600; hay, tons, 252; for 1936, wheat, 574,200; corn, 2,415,000; oats, 416,000; rye, 30,000; barley, 251,200; soybeans, 99,400; kafir, 14,000; hay, tons, 720; shipments, for 1937, wheat, 2,584,500; corn, 857,000; oats, 290,000; rye, 39,000; barley, 27,200; soybeans, 3,200; kafir, 19,600; hay, tons, 396; 1936, wheat, 820,480; corn, 547,600; oats, 228,200; rye, 20,970; barley, 43,200; kafir, 5,700; hay, tons, 188.—W. J. Krings, Merchants Exchange.

Cincinnati, O.—Receipts and shipments of grain, in bushels, for the month of Nov. 1937, compared with the same month, 1936, follow: receipts, 1937, wheat 192,000; shelled corn, 250,500; oats, 106,000; rye, 11,200; barley, 1,600; grain sorghums, 2,800; buckwheat, —; feed, 900 tons; hay, 902 tons; for 1936, wheat, 187,000; shelled corn, 1,329,000; oats, 110,000; rye, 14,000; barley, 4,800; grain sorghums, 2,800; buckwheat, 2,800; feed, 870 tons; hay 1,100 tons. Shipments for 1937, wheat, 252,800; shelled corn, 154,500; oats, 36,000; rye, 1,400; for 1936, wheat, 315,200; shelled corn, 379,500; oats, 58,000; rye, 1,400. No record was available for shipments of barley, grain sorghums, buckwheat, feed or hay for either year.—John O'Hara, inspection and weighing dept. Cincinnati Board of Trade.

Ottawa, Ont., Dec. 16.—Wheat marketings in the Prairie Provinces for the week ending Dec. 10, 1937, amounted to 1,160,640 bus., a decrease of 494,610 bus. from the previous week when 1,655,250 bus. were marketed. During the corresponding week a year ago the receipts were 1,304,451 bushels. Marketings in the three Prairie Provinces for the nineteen weeks from August 1, 1937, to December 10, 1937, as compared with the same period in 1936 were as follows, figures within brackets being those for 1936: Manitoba 31,964,385 (18,043,345); Saskatchewan 19,852,924 (75,466,304); Alberta 43,025,472 (39,206,043) bus. For the nineteen weeks ending December 10, 1937, and December 11, 1936, 94,842,781 and 132,715,692 bus. were received from the farms.—R. H. Coats, L.L.D., Dominion Statistician.

Daily Closing Prices

The daily closing prices for wheat, corn, oats, rye, barley and soybeans for May delivery at the following markets for the past 2 weeks have been as follows:

	Wheat													
	Option High Low	Dec. 8	Dec. 9	Dec. 10	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 20	Dec. 21
Chicago	132½	85½	94¼	93¾	92½	91½	92½	92½	92½	91	90¾	91¼	91	92¼
Winnipeg	130¾	102¼	116½	115½	115½	114½	115½	116½	118	117¼	117	116¾	116½	117¾
Liverpool*			113¾	114½	113¾	112½	113¾	113¾	114¾	113¾	112¾	112¾	110¾	110¾
Kansas City	118¼	81½	91½	90½	90	89½	89½	89½	89½	88½	88½	88½	88½	89½
Minneapolis	124¼	90¾	101½	101½	100¾	99¾	99½	99¾	99¾	98¾	98¾	98¾	98¾	99¾
Duluth, durum	89¾	78¼	88½	88½	87½	86¼	86¾	87½	87	86	86	86	86	86¾
Milwaukee	119	85¼	94¾	93¾	92¾	91¾	92¾	92¾	92½	91	91½	91½	91½	....
	Corn													
		Dec. 8	Dec. 9	Dec. 10	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 20	Dec. 21
Chicago	81	55¾	57¾	58¾	58¾	58½	58½	58¾	59¾	59¾	58¾	58¾	59¾	60½
Kansas City	70	52¾	55¾	56	56¾	55¾	56	56¾	57½	57¾	56¾	56¾	56¾	58
Milwaukee	70¾	55½	57¾	58¾	58¾	58¼	58¼	58¾	59¾	59¾	58¾	59	59¾	....
	Oats													
		Dec. 8	Dec. 9	Dec. 10	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 20	Dec. 21
Chicago	42¼	28½	30½	30½	30½	30	30¼	30	31¼	30½	30¼	30¼	30¼	30¾
Winnipeg	51	41¼	45¼	45¾	45¾	45¾	45¾	45¾	45¾	45¾	45¾	45¾	45¾	46¾
Minneapolis	30½	26½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27¾
Milwaukee	33¾	28¾	30½	30½	30½	30	30	30	30¾	30¾	30¾	30¾	30¾	....
	Rye													
		Dec. 8	Dec. 9	Dec. 10	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 20	Dec. 21
Chicago	84	63¾	70¾	70¾	70¾	69¼	69	69½	70½	69¾	69¼	69¾	69¾	70¾
Minneapolis	75½	59½	66¼	65¾	65½	64¾	64¾	64¾	65¾	65¾	65¾	65¾	65¾	66¾
Winnipeg	95¾	69¼	77¾	77¾	77	76¼	76	77¾	78½	77½	77½	77¾	77¾	78¾
Duluth	67½	67½	....	....	....	....	....	....	....	....	....	....	67½	....
	Barley													
		Dec. 8	Dec. 9	Dec. 10	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 20	Dec. 21
Minneapolis	47¾	43¾	44¾	45	44¾	44¾	45	45¼	45¼	45	44¾	45	45	46¼
Winnipeg	64½	53¾	58½	58¾	58¾	58½	58	58¾	58¾	58	58½	58½	58½	58½
	Soybeans													
		Dec. 8	Dec. 9	Dec. 10	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 20	Dec. 21
Chicago	106¼	93	94	94	94	94	93¾	94	94	94	94½	94½	94½	94¾

*At daily current rate of exchange.

Corn Sealing Total

Farmers may seal about 133,000,000 bus. of corn for government loans, according to a survey by Nat C. Murray, statistician for Clement, Curtis & Co. His reports from correspondents show around 15 per cent of the crop or 74,000,000 bus. will be sealed in Iowa; about 8 per cent or 34,000,000 bus. in Illinois.

His estimates for other states, in bus., are: Ohio, 3,300,000; Indiana, 10,500,000; Minnesota, 6,800,000; Missouri, 1,200,000; South Dakota, 1,800,000; Nebraska, 800,000; and Wisconsin, 800,000.

Examples of Faulty Operation of Moisture Testers

Examples of faulty operation or of faulty equipment standardization are plentiful. Four cases observed during November and December, 1937, will serve as typical examples.

An Ohio River inspection point reported moisture-test variations of one per cent and over between the Brown-Duvel device and the electric moisture tester on subsamples obtained from the same lot of corn, and that results obtained with the electric meter were lower than those obtained with the Brown-Duvel tester. A study of this case by the Federal Grain Supervision revealed the fact that when the Brown-Duvel test data were compared with the official water-oven data, the Brown-Duvel data were in error by practically the entire degree of variation.

An Indiana inspection point reported low moisture tests of one per cent or over for the electric meter as compared with Brown-Duvel tests. A study of this case by the Federal Grain Supervision showed that the moisture test results obtained by the Brown-Duvel moisture tester were in excellent agreement with those obtained by the official water-oven method, and that the trouble was in the operation and standardization of the electric moisture tester.

A midwestern inspection point reported a difference in moisture-test results between the two devices of approximately one per cent. In this case, however, the electric moisture testers were reported as recording high moisture-test results. An analysis of this case showed that the Brown-Duvel moisture tester was giving results a full per cent lower than the results obtained by the use of the official water-oven method.

Finally, in the case of an important Missouri inspection point the studies and check tests showed that not only were the Brown-Duvel moisture testers in that market out of correct operative condition and giving erroneous and relatively high moisture-test results in comparison with the official oven-method results, but that the electric moisture testers were also out of adjustment in a manner which caused them to record low moisture results in comparison with the official water-oven data. Consequently a moisture-test variation of a full per cent developed at this market due to the combined inaccuracies of the electric and Brown-Duvel moisture-testing devices, according to General Field Headquarters of the Federal Grain Supervision.

Ottawa, Ont.—Elimination of Garnet wheat from No. 3 northern grade is proposed in a bill Trade Minister W. D. Euler expects to introduce in Parliament. Garnet wheat has been allowed in Grades 3, 4 and 5, but British millers complain its presence in No. 3 varies the quality of that grade widely.

Proposed I. C. C. Reports

Dismissal is proposed in No. 27818 St. Louis Merchants Exchange et al. v. L. & N. Involved are wheat rates, Belleville, Ill., to East St. Louis, Ill., for milling in transit, flour and mill products moving on to destinations in Alabama. Shipments were made in October and November, 1934, and August and September, 1935. Proposed finding L. & N. rates applicable.

Examiner J. Edgar Smith, has proposed in I. & S. No. 4376, finding time limits for issuance or exchange of thru export Bs/L not justified, and that suspended tariffs be cancelled. Suspended tariffs attempted to eliminate the abuse by shippers, of railroad facilities thru using them for storage of merchandise intended for export, and sought to limit issuance of an export B/L or exchange of domestic for export B/L to "10 days prior to due date of ship's sailing."

Acceptable Substitute Wanted

Delegates to a conference of the National Farmers Union, the Northwest Farmers Union legislative com'te, the Wheat Conservation Conference and the Minnesota Farm Conference Board at St. Paul, Minn., recorded a vote against dissolution of the Farmers National Grain Corp., unless an acceptable substitute can be provided. The question of dissolution comes before a meeting of stockholders of the Farmers National Grain Corp. in Chicago, Jan. 24.

W. M. Foster, spring wheat area manager for the Farmers National, said that 60 per cent of the corporation's stock was represented at the St. Paul conference. The conference named a com'te to negotiate with the Farm Credit Administration, since any substitute for the Farmers National must meet with the approval of the F.C.A.

The conference wired Senate farm leaders in Washington to urge a government subsidy of \$5,000,000 to \$6,000,000 to take 30,000,000 bus. of Pacific northwest soft white wheat off the market, contending that removal of the Pacific northwest's surplus would lift the entire level of wheat prices, now considered 30c to 40c below parity.

The Farmers Union Terminal Ass'n threw its unanimous support behind the movement to reorganize the Farmers National Grain Corp. at the closing session of its meeting in St. Paul.

Elevator Superintendents Issue Safety Diary

Clarence W. Turning, of Duluth, safety director of the Elevator Superintendents' Ass'n's safety contest, has just issued a safety diary for the guidance of all those interested in accident and injury prevention.

A special supplement appears in the front of the book with timely suggestions for terminal grain elevators, flour mills and grain processing plants.

Mr. Turning reports considerable success in the reduction of accidents on the part of those who have enlisted in the Superintendents' Society's safety drive, with only two major accidents to date.

Washington News

The National Co-operative Council sent a vigorous criticism of the proposed farm legislation to each member of Congress last week in which it stated: "Compulsory production control, by whatever name it may be called, is unwise. It leads to economic disorder and is impossible of enforcement."

The Senate agricultural com'te has reported the \$50,000,000 feed and seed loan bill, a measure similar to legislation enacted annually for several years to aid farmers in need of funds to purchase seed. So farmers are to be helped to increase production, as well as paid for reducing acreage.

The Borah-O'Mahoney bill providing for the federal licensing of all corporations engaged in interstate commerce was denounced by the Illinois Manufacturers' association as an impractical measure which would lead inevitably to economic dictatorship and a socialistic state. "Industry has been hopeful that our federal public officials and federal legislators would recognize that the present unemployment situation might become much more acute unless congress placed a moratorium on legislation of this kind, the practical effect of which is to harass and alarm men who are trying to supply jobs."

Calendars Received

John E. Brennan & Co., Chicago, are mailing their friends its customary large wall calendar for 1938, with legible figures, easy to read at some distance.

B. I. Weller, Chicago, Ill., is boosting the sale of his Calumet elevator buckets with a 1938 wall calendar that devotes most of its space to an exotic and colorful painting of an auburn haired girl.

International Harvester Co., Chicago, Ill., is distributing a handsome wall calendar that goes thru the seasons with the Farmall tractor, illustrating the preparation of the soil, planting, cultivating and harvesting operations.

Henry Simon, Ltd., Cheadle Heath, Stockport, Eng., is again favoring its friends in the trade with an attractive 1938 daily calendar suitable for either desk or wall, and expressing its "best wishes for the new year." Each of the daily pages bears the month, the date and the day of the week, and new and ancient quotations from literature.

SKF Industries, Inc., Philadelphia, Pa., is distributing a beautiful, modernistic calendar for 1938, decorated with a colorful painting of gears, factories, and a muscular athlete, a brilliant detail of a modern SKF ball bearing in the foreground. The large calendar shows three months on each of its 12 sheets, the current month in large size.

Link-Belt Co., Chicago and principal cities, is sending its friends an attractive 1938 calendar in white and sepia, with 12 monthly sheets, the first sheet decorated with a bas-relief map of the United States, and the quotation from Scott about "Breathes there a man, with soul so dead . . ." Other sheets show detailed illustrations of Link-Belt chain, couplings, conveyors and other products.

Allied Mills, Inc., Chicago and Fort Wayne, is sending the trade a large wall calendar, cut out and border-decorated to represent a bag of Wayne feeds. The background on each sheet is a different combination of colors, like the brand colors on the different kinds of Wayne feeds. First sheet on the calendar is December, 1937, with a big picture of Santa Claus and a rousing "Merry Christmas."

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Grain and Feed Trade News

Reports of new elevators, feed mills, improvements; changes in firms; fires, casualties, accidents and deaths are solicited.

ARIZONA

Somerton, Ariz.—The California Land & Cattle feed mill, which was destroyed by fire Nov. 30, has been rebuilt and is practically completed and ready for operation again. Damage by the fire was estimated at \$25,000. The mill prepares feed for about 15,000 head of cattle, 9,000 of which are in pens near the mill.

CALIFORNIA

San Francisco, Cal.—E. C. Gayman, until recently general credit manager of Sperry Flour Co., together with S. R. Frizelle and a group of local business men, have formed Frizelle-Gayman Co., Inc., to succeed to the business of Frizelle's, Inc., Sonoma County manufacturer of poultry and dairy feeds for the past decade.

Artesia, Cal.—Frank Williams, manager of Williams Bros. Grain & Milling Co. for the past four years, has purchased the business which will be known as the Artesian Hay & Grain Co. in the future. He will be assisted by his wife in the conduct of the business. The plant was established here seven years ago by Williams Bros., other brothers associated with Mr. Williams being Paul, Layton and Fred, the brothers owners of a large feed business in Los Angeles and the original plant in Norwalk.

CANADA

Winnipeg, Man.—Introduction of a bill to remove Garnet wheat from the grade No. 3 northern will be made at the next session of parliament, expected to open in January, according to a recent statement made by W. D. Euler, Canadian minister of trade and commerce. He stated he was acting on the recommendation of the Board of Trade Commissioners, and was making the announcement at this time in order that the growers may be aware of the position of Garnet wheat in the marketing of next year's crop that they may take whatever steps are necessary in procuring seed. At present Garnet wheat is excluded from grades No. 1 and No. 2 northern, but is permitted in No. 3 northern which calls for "red spring wheat of fair milling quality."

COLORADO

Denver, Colo.—The four-story feed mill owned by George Hanks which burned recently, will be rebuilt.

Sedgwick, Colo.—The Welsh elevator, of which A. F. Claypool is manager, closed Dec. 1 and will remain so until further notice. The action was taken because of the uncertainty of a grain crop for the next season. The elevator was opened at harvest time this year by Mr. Claypool. Should conditions warrant it, it will be reopened again for next harvest.

Grand Junction, Colo.—A. J. Obert of Delta was elected pres. of the Western Colorado Millers & Feed Dealers Ass'n at its meeting held here Dec. 12. His term is for 6 months as the ass'n holds semi-annual meetings. The summer meeting will be in Monte Vista. At the local meeting action was taken protesting the imposition of processing taxes. R. H. Sloan of Durango is sec'y-treas.

Sterling, Colo.—The Welsh Elvtr. Co. has opened its new feed yard and warehouse. The yard is located at the former Watts Lumber Co. yard and is the first retail store of the company in Sterling, car load lots being the smallest amount of feed that could be purchased here. The company has elevators at Sedgwick and Willard. Herbert M. Welsh is manager of the Sterling plant. He has been engaged in the grain business here since 1925.

ILLINOIS

Newton, Ill.—Corwin Manning has started a new feed mill here.

Somonauk, Ill.—W. A. Westbrook Grain Co. has installed a new 20 h.p. mill.

Hinckley, Ill.—Fire of undetermined cause totally destroyed the elevator of the Hinckley Grain Co. on Dec. 13.

Grand Pass (Hillview p.o.), Ill.—The Grand Pass Elevator (Cole & Schram) has recently painted its elevator.—G. H. R.

Leonard (Gilman p.o.), Ill.—The Danforth Farmers Elvtr. Co. has covered its office with asbestos slate shingles.—G. H. R.

Shumway, Ill.—Mann Bros., who formerly operated a flour mill at this location, plan to reopen this plant as a feed mill and feed store.

New Holland, Ill.—McNeil Grain Co., after spending several thousand dollars upon repairs to its elevator, has completed its efforts by painting the elevator building.—G. H. R.

Mt. Vernon, Ill.—Rufus Grant, age 70, retired banker and feed and seed dealer, died after short illness Dec. 5. Mr. Grant was president of the Willis Grain & Feed Co.—H. H. H.

West Salem, Ill.—P. R. Couch of the firm of Geo. Couch & Sons, grain operators here and at various other stations in Illinois and Indiana, is ill and confined to his home.—H. H. H.

East St. Louis, Ill.—The grain warehouse and general merchandising store of Robinson, Inc., was destroyed by fire Dec. 8. Robinson, Inc., owned by James Reed & Co., estimated damage to its building and contents at \$150,000.

Red Bud, Ill.—The C. Becker Milling Co. (Ziebold Mill) has just completed the installation of a new 30-h.p. oil fuel engine in the basement of the frame elevator, substituting same for the electric power motor.—G. H. R.

Hillview, Ill.—The Community Elevator (Cole & Schram) has recently purchased the old warehouse east of its property, which it has leased for years, and has remodeled same. The elevator building has also been painted.—G. H. R.

Antioch, Ill.—George Wagner, 49, manager of the Antioch Milling Co., died at St. Catherine's hospital in Kenosha, Dec. 5, after a six months' illness. Mr. Wagner came to Antioch from Chicago in 1918 and had resided here ever since.

Winchester, Ill.—The Winchester Farmers Elvtr. Co. has recently been incorporated, 1,250 shares; incorporators are C. Thomas, W. M. Carlton, W. L. Bagshaw. The company will deal in grain, seed, feed, coal, building material, etc.

Hume, Ill.—The Newman Grain & Lumber Co. has sold its building material stock to E. J. Lyons of Forrest, Ill., who will take active possession the first of the year. Mr. Lyons will continue to conduct the business from its present location.

Romeo (Lockport p.o.), Ill.—The Lockport-DuPage Farmers Elvtr. Co. has completed an addition to the north side of its feed-mill unit. The building is 24x16x18 ft. and houses a Joliet No. 1 portable shelling unit, operated by a 25 h.p. motor, belted to same.—G. H. R.

Buckley, Ill.—Buckley Grain Co.'s new offices have been completed, erected on their property which is situated between the two elevators. The building is of hollow tile and the interior conveniently arranged. The old office building will be sold. Harold Morgan is manager of the plant.

Secor, Ill.—The Secor Elvtr. Co. has just completed a new ear-corn crib 60 ft. west of its elevator building 9x30x16 ft. with driveway attached 30x10x12 ft. Hiker leg 16x7-inch cups, driven by 3-h.p. motor have been installed. The building has a metal roof. V. Wilky is manager.—G. H. R.

Alexander, Ill.—W. A. Kinnett Grain Co. plans to rebuild its elevator in the spring. Fire destroyed the company's east elevator and its contents Nov. 21, as reported in the Journals' Dec. 8 issue. About 7,000 bus. of the 21,000 bus. of oats in the elevator were salvaged. The office and coal shed were undamaged.—G. H. R.

Donovan, Ill.—The Donovan Farmers' Co-op. Elvtr., Inc. has recently installed a McMillin type B electric truck hoist on its drive-way, raised by a 3 h. p. motor. Work upon the elevator has been stopped on account of the cold weather, the west and south sides only having been metal cladded. The metal-cladding will be completed in the spring.—G. H. R.

Polo, Ill.—W. C. Schryver, former mill operator, has re-entered the feed mill business locally with the purchase in Nov. of the Kroh Mill from the owner and operator, G. L. Kroh. The mill will be operated by Mr. Schryver's son, William. Mr. Schryver was formerly in the business here, selling his mill about 10 years ago to Olsen & Madsen. Axel Olsen still conducts the business.

Carlinville, Ill.—The old Carlinville Grain Elevator, now operated by the Farmers & Merchants bank here, burned Dec. 12, causing a damage of \$1,500. The old building collapsed and fell on electric light wires, causing a period of darkness for a large section of the town. There were 1,500 bu. of oats, 500 bu. of corn and 200 bu. of wheat lost in the blaze. Cause of the fire has not been determined.

Pleasant Plains, Ill.—We have just completed repairing the damage done to our plant by a fire on Nov. 2. Due to the fact that our plant is of fireproof construction the only damage done was to the cleaner, motors, belting and conveyors in the top floor of the elevator. The leg belts are 16-inch and one 18-inch burned into at the head pulleys but as leg wells are of concrete construction, the fire soon smothered itself out and only a short length of belt was lost. We have installed the latest type No. 31 Western Cleaner equipment with roller bearings, V-belt, driven from 3-phase motor. The legs are driven by cog belts, with separate 3-phase motors controlled by push buttons on the working floor.—F. M. Hagen, mgr. P. P. Farmers Elvtr. Co.

Sidell, Ill.—Fire originating in the cupola and believed to have been caused by an overheated motor, destroyed the Sidell Grain Co.'s elevator with all its contents about 8:30 p. m., Dec. 4. The loss is estimated at \$30,000. All machinery and equipment was damaged beyond repair. New machinery costing \$8,000 had been installed last summer. The elevator was practically filled with grain, including 8,187 bus. of corn, 14,589 bus. of oats and 8,187 bus. of soybeans. The grain loss is fully covered by insurance, but only partial insurance covered the building. The elevator was formerly owned by the Paul Kuhn Elvtr. Co. of Terre Haute. The present owners of the elevator are Sam, Rufus and Chester Maddox and Fred F. Current. The latter is manager of the plant. Mr. Current writes: "We intend to rebuild as soon as we can get started." The Sidell Grain Co. has elevators also at Maizetown and Hastings.

CHICAGO NOTES

A vote by members of the Chicago Board of Trade on a proposed change in rules to provide for annual election of both vice presidents was held Dec. 21.

Directors of the Board of Trade have granted an extension until Dec. 31 for the filing of reports by members on cash corn transactions made from Aug. 1 to Nov. 15.

William Schwab, 52, former owner of the South Side Hay & Grain Co., ended his life beneath the wheels of an I. C. train Dec. 8. His act was attributed to ill health.

An advance of \$200 was noted in the price of memberships in the Chicago Board of Trade Saturday, Dec. 5, with certificates being sold up to \$3,200. Posted offers were at \$3,500, and highest bid at \$2,750.

Grain receivers have inaugurated a voluntary plan of reporting all sales of consignments by dropping a memorandum of number of cars and price of each in a box in the custody of Sam Raymond, from which the Board of Trade will compile and preserve a legal record of the price of spot grain each day.

The following have posted for sale their memberships in the Board of Trade: Harold Anderson, Henry E. Sellers, Samuel J. T. Straus, Estate of George F. Geist, Franklin M. Crosby, James F. Bell, Jens Juul, Estate of A. L. Sinsheimer, Henry W. Pletch, Bernard W. Rosar, John W. Hanes, John D. Roth.

Kenneth S. Templeton, pres. of the board of Trade, addressed the Junior Ass'n of Commerce at its weekly luncheon Monday noon in the Central Y.M.C.A. auditorium. His subject was "The Economic Functions of the Board of Trade." C. D. Sturtevant, chairman of the business conduct com'te was also a guest.

A petition for the renomination of Kenneth S. Templeton as pres. of the Chicago Board of Trade has been placed in circulation among members of the exchange. A second petition for the nomination of Orrin S. Dowse for the second vice presidency was also circulated. The annual election of officers will be held Jan. 11.

Margin requirements on cotton have been changed by directors of the Board of Trade at the suggestion of the Commodity Exchange Administration, and will become effective Jan. 1, it was announced Dec. 15. In brief, the changes provide that initial margins be required of all customers on cotton transactions, except on hedging and spreading transactions, and will be clearing house requirements as a minimum. On hedging and spreading transactions, credits not exceeding \$2.50 per bale and not in excess of \$5,000 are permitted.

Directors of the Board of Trade have postponed indefinitely a hearing on charges against the Cargill Grain Co. of Illinois. The hearing had been set for Dec. 21, but a new date will not be set, now, until Jan. 25. No reason for the postponement was disclosed. Many members believe, however, that the report of the McDonald com'te, which is making a complete study of market conditions involved in the September corn "squeeze," will be available by Jan. 25. Results of the study, it was indicated, may determine what form the action against Cargill will take.

Contract has been given to John S. Metcalf Company for the rehabilitation and electrification of Rock Island's elevators, C and D in South Chicago. Nineteen A-C motors will be installed and power transmitted to different units by nineteen silent chain drives. Some of the equipment will have individual drives. All elevator legs will be grouped, likewise all conveyor belts and these will have group drives. Westinghouse electric controls will be installed thruout. Two Fairbanks-Morse Turbine type fire pumps will be installed. Recently, new leg casings have been installed and the dock rebuilt so that both houses will soon be in prime condition to handle grain expeditiously.

Members of the Board of Trade were notified Dec. 9 to submit to a special investigating com'te by Dec. 15 detailed reports on transactions in cash corn that were made from Aug. 1 thru Nov. 15. The reports also cover firms or corporations for whom a membership is registered. The date requested includes information whether receipts, shipments or consignments were in cars, boats, barges, trucks or canal boats; the grades and specific terms based on the futures, on spot, to arrive, in store or flat price, together with points of origin and destination. The names of customers to whom sold or from whom bought or for whose account the corn was sold or bought also must be supplied.

Judge Harry M. Fisher of the Circuit court Dec. 8 overruled a preliminary motion of the Cargill Grain Co. of Illinois to dismiss a suit for \$100,000 brought against the company by D. F. Rice & Co., grain brokers. The suit was brought against the Cargill firm, operators of the Northwestern grain elevator in South Chicago, upon alleged failure to make prompt delivery of oats upon presentation of elevator receipts by Rice & Co. last July, under an Illinois statute which provides a public elevator operator shall be liable for penalty payments to the amount of 1 per cent per day per bushel, for failure to make prompt delivery. The Cargill Company, in its motion to dismiss, set forth that the statute required storage charges to be paid in advance. The Rice Company answered that Cargill had agreed to waive payment until bills were rendered, a practice in the grain trade.

INDIANA

Ossian, Ind.—Ben Levy Grain Co. has installed a Sidney Feed Mixer.

Linwood (Alexandria p.o.), Ind.—Fire Dec. 3 damaged the elevator office of the Linwood Grain Co.

Brook, Ind.—The Standard Elvtr. Co.'s elevator office was damaged by fire which occurred at the plant Dec. 8.

Flora, Ind.—Robbers broke into the safe at the Flora Grain & Coal Co.'s elevator on the night of Dec. 4.—Leif.

Walkerton, Ind.—The Holser-Palmer Co. has installed recently a 50,000-lb. truck scale and a new hammer mill.—Leif.

Geneva, Ind.—Geneva Milling Co. is using the large rolling screen cleaner recently purchased of the Sidney Machry, Co.

Delphi, Ind.—The C. M. Kerlin elevator has been repainted in aluminum color and a new truck scale has been installed in office.—Leif.

Orleans, Ind.—The McIntire & Hopping elevator burned to the ground Dec. 7. Origin of the fire has not been determined.

Howe, Ind.—H. G. Rinkel & Son recently installed a 1,000-lb. batch mixer together with reel, bin, double elevator and net weigher.

Corydon, Ind.—Waldo S. Engleman and Floyd Harrison have purchased the feed business of W. Roscoe Stevens and will open under their own name.

Danville, Ind.—The Hendricks County Farmers Ass'n recently completed the erection of a soybean processing plant in connection with its mill and grain elevator.

Columbus, Ind.—Willard Fulks, aged 81 years, head of the milling firm of Willard Fulks & Son, died of a heart ailment Dec. 7 while sitting in a chair at his home here.

Ft. Wayne, Ind.—Lyman Peck is now nutritional director for McMillen Feed Mills, Inc.

Tyner, Ind.—The C. G. Wolf elevator has recently added a new Sidney Corn Sheller and feed mixer.—Leif.

New Harmony, Ind.—Horace Bowman, miller at the Couch & Son mill, was severely burned when hot babbitt he was pouring in a bearing exploded and hit him in the face.

Harrisville, Ind.—The Pierce Elvtr. Co. recently purchased a 30-h.p. Ajax Hammer Mill with magnetic separator and Sidney Crusher from the Sidney Grain Machry, Co.

Fairland, Ind.—Fairland Grain Co., Inc., has been incorporated to operate a general grain and elevator business at Fairland. Incorporators, M. W. Bass, L. H. Earle, W. K. Mannon.

Indianapolis, Ind.—New members enrolled in the Indiana Grain Dealers Ass'n include the Layer Bros. Co.'s elevators located at Wakarusa, Pierceton and Claypool.—Fred K. Sale, sec'y.

Frankton, Ind.—Benjamin F. Fesler, 84 years old, who for many years operated a grain elevator and was president of the Farmers Grain & Coal Co., died recently after an illness of a few days.—W. B. C.

Connersville, Ind.—Benton Grain Co. elevator, recently purchased by L. F. Cherry, has opened for business. It is equipped for custom grinding, feed mixing and shelling and a full line of feeds will be handled.

Evansville, Ind.—J. L. Knauss, 87, pioneer miller and grain man, died Dec. 14. Mr. Knauss started in the mill business at Millstadt, Ill., moving to Evansville later where he operated several mills until selling out to Inglehart Bros. in 1926.

E.W. BAILEY & CO.

Wishes You
Holiday
Greetings



May the
New Year be a
Winner

Commission Merchants

Grain, Seeds
Provisions

Depend on Bailey's Service in 1938

1142 Board of Trade
CHICAGO

Bowers (Darlington p.o.), Ind.—We are installing a McMillin truck lift in our Bowers elevator, also remodeling our cob spouts to handle this machine picked corn.—John E. Lynch, mgr. Farmers Feed & Grain Co. (Darlington).

Attica, Ind.—John F. Deck, who for many years was engaged in the grain business here, died recently. Mr. Deck, along with the late John T. Nixon, operated for a number of years what became known as the Jones Bros. Grain Elevator on West Main street.—W. B. C.

New Harmony, Ind.—Couch & Son will have their flour mill in operation by Christmas, it is expected. A delay in completion of the mill occurred when it became necessary to transfer workmen from the mill construction to the corn elevator to recondition it for handling the bumper corn crop.

Leipsic, Ind.—A large grain elevator owned by Cecil Hopping, of the firm McIntyre & Hopping, burned Dec. 7. The origin of the blaze is unknown as the entire structure was in flames when first discovered by neighbors. The elevator was valued at around \$3,500, no insurance. About 300 bus. of corn was destroyed.

Windfall, Ind.—John W. Pugh, manager for several years of the Farmers Grain & Supply Co., died of a heart attack on Thanksgiving Day. About a year ago Mr. Pugh left the grain business to engage in the lumber business here. However he always attended grain conventions, and news of his death comes as a shock to his many friends among the grain trade.

Indianapolis, Ind.—Under the amended State Gross Income Tax Act, every taxpayer must file a return if his gross income for the period, Jan. 1 to Dec. 31, 1937, exceeds \$1,000 whether or not he is liable for tax. The 1937 annual return must show the total gross income for the year. This return is delinquent after Jan. 31, when a 10 per cent penalty is attached for delinquency and the minimum penalty is \$2.00.

IOWA

Eldora, Ia.—R. H. ("Bob") Johns, manager of the Eldora Grain Co., is confined to his home with the "flu."—A.G.T.

Indianola, Ia.—E. H. Felton & Co. has moved its down-town store in Indianola to its elevator near the Burlington tracks.

Lewis, Ia.—The old Shindley elevator, not in use for the past several years, is being torn down. The lumber will be sold locally.

Whiting, Ia.—Whiting Farmers Co-op. Elvtr. Co.'s new office has been recently completed at the cost of \$2,500. C. E. Persinger is manager.

Council Bluffs, Ia.—The Scofield Feed & Seed Co.'s grain elevator, which was damaged by fire Dec. 10, will be repaired within a few weeks.

Des Moines, Ia.—Mail addressed to Delp Grain & Feed Co. at 702 Hubbell Bldg. has been returned by the post office marked "Unclaimed."

Marion, Ia.—Harold Halstead, who moved here from Central City, has purchased a new portable milling machine, which mixes molasses with any kind of roughage.

Beaman, Ia.—Roy Barger was elected director of the Beaman Elvtr. Co. recently to fill the vacancy on the board caused by the death of Lewis Glass of near Gladbrook.

Lidderdale, Ia.—E. E. Wentz, who several months ago sold his grain elevator at Lanesboro, has recently purchased a local elevator and elevators at Wightman and Kirkman.

Lohrville, Ia.—E. H. Hunt of Jefferson is the new manager of the Milligan elevator, taking the place of H. Bales, whose resignation was announced in the last issue of the Journals.

Muscatine, Ia.—Levi L. McKee, who is associated with his father, L. Ranson McKee in the McKee Feed & Grain Co., was united in marriage Dec. 12 to Miss Corrine Elizabeth Hetzler of Muscatine.

Council Bluffs, Ia.—The Bartlett-Frazier Co.'s grain elevator at 26th ave. and 4th st. has been newly painted. A patented concrete paint was used. Metal work on the inside of the elevator has also been repainted.

Zearing, Ia.—Willard Bartine of Clemons has been made the new manager of the local Froning Elevator, to succeed Clyde Bavenger who has been transferred to the company's Liscomb elevator. Mr. Bavenger had been in charge of the local elevator since last April.

Algona, Ia.—R. E. Rising has practically completed his new office 16x40 ft., his feed warehouse 40x100 ft., and his mill house which is a two-story building 30x40 ft. Construction will start on his new elevator of 15,000 capacity in the spring, when he intends to move over to his new location.—A.G.T.

Ogden, Ia.—W. C. Walker has remodeled his north elevator so that he is now in a position to handle ear corn direct into the elevator without the necessity of scooping the corn into cribs or into the bins. Only recently he had his south elevator repainted with aluminum paint and has other ways improved his property.

Humboldt, Ia.—T. A. Robinson, manager of the Farmers Co-op. Elvtr. Co., recently had the misfortune of losing one of his fingers on the right hand when he was feeding the mixing plant and got into the auger. Peter Larsen, second man, just recently returned to his duties after suffering a similar accident with the grinder where he had three finger tips on his right hand severed.—A.G.T.

Winfield, Ia.—Last week saw the completion of the new Winfield Elvtr. & Supply Co.'s new elevator under construction since the middle of October, and the plant is now in full operation. The new building is 60 ft. high to the tip, and has 9 bins, more than double the capacity of the old elevator; its capacity measures about 12,000 bus. A feature of the new equipment is the fool-proof hydraulic lift. More work can now be done in two hours than the two old dumps could do in a day, Clone Swarts, manager, stated.

KANSAS

Baldwin City, Kan.—Fire damaged the Baldwin Elevator truck Nov. 30. While the damage was confined to the engine, the company will replace the truck. The loss was covered by insurance.

Greenleaf, Kan.—The Farmers Elvtr. Co. has installed a new Kelly Duplex Vertical Mixer, capacity 1 ton. It will be used in mixing poultry and livestock feed sold by the elevator and also for custom mixing.

Liberal, Kan.—Harry Riffe of Tyrone, Okla., is in charge of the Goffe & Carkner offices here, succeeding Allen Logan. Mr. Riffe has been in the grain business in Tyrone for a number of years. He will continue to reside in that town, driving back and forth to his work.

Waterville, Kan.—B. T. Oakley, "Bert" to his countless friends, proprietor of the Blue Valley Grain Co., died Nov. 26 following a stroke suffered early that day. Mr. Oakley was 60 years old. Since buying an interest in the Whiteside elevator in 1935 he had operated that plant under the name Blue Valley Grain Co.

Atchison, Kan.—A new plan of operation for the Atchison Agrol plant is being worked out and will be announced soon, according to Gerish Severson, superintendent of the plant. He stated the plant will swing into large scale production within a few days, utilizing approximately 4,000 bus. of kafir products a day. Ample raw material is now available, he said, and the plant will attempt to contract most of the kafir produced in this section of northeast Kansas.

START the New Year right!
A lot of war talk — and threats of wars. America wants peace—but she must be prepared—to meet all comers—protect her citizens—to enforce her demands—preserve our liberties — or democracy is doomed. Pacifism means National decay. So let's all Resolve—to keep alive the spirit of freedom—the camp fires of liberty burning—the Stars and Stripes forever—standard of human rights — America always to the fore. That's the spirit for Nineteen Thirty-Eight. You have our best wishes.

LOWELL HOIT & CO.

Natoma, Kan.—Archie Bealby succeeded H. M. Conger at the Farmers Elvtr. Co.'s plant, beginning his new duties last month. Mr. Conger had been manager of the elevator for about two years.

Dodge City, Kan.—Reports are still coming to us of truckers selling at retail, and upon investigation we find none of them registered with the Tax Commission. In other words, they are not authorized to sell at retail nor to collect sales tax. They are completely ignoring the Sales Tax Law and we are insisting that some action be taken to correct this unfair practice. A recent regular weekly report from the Kansas Corporation Commission shows that during that period only 10 new trucking permits were granted while 133 were cancelled. No doubt some of these cancellations were due to violations.—Kansas Grain, Feed & Seed Dealers Ass'n, J. F. Moyer, sec'y.

KENTUCKY

Mayfield, Ky.—The Mayfield Milling Co. sustained damage to its electrical equipment on Nov. 23.

Beaverdam, Ky.—Beaverdam Milling Co. has installed a new Sidney Combined Corn Sheller & Cleaner.

Versailles, Ky.—The Farmers Union Mill, C. A. Howard, owner, sustained damages in a windstorm Nov. 28.

Pumpkin Center, Ky.—J. L. Bumgardner bought the saw and grist mill at the sale held by Mrs. Will Dave Mink recently.

Louisville, Ky.—Joseph LeCompte, 81 years of age, pres. of the Lexington Roller Mills, Lexington, Ky., a charter member of the Millers National Federation, chairman of the board of Millers National Insurance Co., also active in the Central Kentucky Millers Ass'n, died in Lexington Dec. 20.—A. W. W.

Louisville, Ky.—Claiming the Tom Moore Distillery Co., Bardstown, Ky., ordered 100,000 bus. of corn grain in June and then refused to accept delivery or pay for it in November, the Early & Daniel Co., Cincinnati, Dec. 20 filed suit to collect \$23,000, reportedly lost when forced to sell the grain for \$63,250.—A. W. W.

MARYLAND

Bel Air, Md.—Calvary Roller Mills recently installed a new corn cutter.

MICHIGAN

Milan, Mich.—Fire destroyed an extension elevator belonging to William Lee early the morning of Dec. 5. Estimate of loss is \$3,000.

STRATTON GRAIN CO.

MILWAUKEE, WIS.

CHICAGO, ILL. SPRINGFIELD, O. ST. JOSEPH, MO. SCHNEIDER, IND. NEW YORK, N. Y.

MILL FEEDS — FEED PRODUCTS — BY-PRODUCTS

Consignments and Future Orders Solicited

Allen, Mich.—Harlow Van Patten has purchased a sheller with motor and V rope drive, the machinery furnished by the Sidney Grain Machry. Co.

Detroit, Mich.—T. H. McDonnell, long associated with A. K. Zinn & Co., grain and feed dealers, has been promoted to manager, with headquarters in this city. He succeeds H. E. Robinson, who has resigned to engage in other work.

Elkton, Mich.—John Ginter, 60, manager of the Elkton Elevator, died Dec. 1 after an illness of about 4 years. He had been confined to his home for the past seven weeks. Mr. Ginter had been employed in the elevator more than 40 years and had been manager the past 14 years.

Hillsdale, Mich.—Clyde R. Martin has accepted the position as manager of the Hillsdale County Co-op. Ass'n, succeeding C. W. Folger, who recently resigned. Mr. Folger had been manager of the Co-op. for the past 16 years. He will take a vacation after which he plans to go into the feed and coal business.

Lansing, Mich.—Herbert J. Henry, receiver for Chatterton & Son, grain and bean dealers, has petitioned for his discharge, having presented his final account. Friday, Dec. 31, at 10 a. m., has been fixed as the date of hearing on the petition, in the Circuit court. All creditors of the corporation or any person interested therein, may review the account filed or make inquiry with respect thereto at that time.

MINNESOTA

Wabasso, Minn.—H. Harkins, of Kampeska, S. D., has moved to Wabasso where he will take over the management of Wabasso Elevator.

Hutchinson, Minn.—Stockholders of the Farmers Co-op. Elvtr. Ass'n of Hutchinson held a special meeting and voted to renew the corporate existence of the association.

Euclid, Minn.—The Northern Seed & Grain Co., of Moorhead, is having a large elevator moved from Greenbush, which will be operated in connection with the local elevator. Peter Stuhr is the agent of the local elevator.

Fairfax, Minn.—What might have been a bad fire was averted Dec. 1 when Manager R. T. Sheehan of the Pacific Grain Co. discovered a motor burning in the cupola and spreading to dust on the floor. He hastily dashed chemical powder on the blaze, subduing the flames with little damage resulting except to a portion of grain the chemical got into. The elevator is filled with grain, and had the fire gained headway before discovery and Mr. Sheehan's quick action, both elevator and contents would doubtless have been destroyed.

Duluth, Minn.—Death claimed Thomas Gibson, 77, at his home Dec. 16. Mr. Gibson, a prominent grain man until his retirement, came here from New Zealand in 1882 and became associated with the firm of A. J. Sawyer and aided in founding the Duluth Board of Trade. He still maintained his membership in the Exchange. Born in Stornoway, Island of Lewis, Scotland, he moved to New Zealand as a young man, then later came here. Funeral services were held Dec. 18 and the Duluth Board of Trade closed its session 15 minutes earlier out of respect to his memory.—F. G. C.

MINNEAPOLIS LETTER

Selden Johnson, 63, a grain inspector, died recently.

Charles G. Wehmann, aged 43 years, at one time engaged in feed jobbing, and a son of Herman G. Wehmann, vice-pres. of the International Sugar Feed Co., died in Chicago Dec. 3.

Charles Van Horssen, director of the Washburn Crosby commercial feed department at Minneapolis and Kansas City, has succeeded D. G. Lowell, who recently resigned as head of the millfeed service of General Mills, Inc.

The Minneapolis chapter of the Society of Grain Elvtr. Superintendents of N. A. enjoyed a dinner and meeting at Freddie's Cafe recently. The principal speaker during the dinner was Prof. Christianson, whose unique and individual manner of handling his subject dealing with the economic welfare of the farmer and the laborer, kept his audience in gales of laughter from start to close of his talk. A dinner-dance and card party for members and wives is scheduled for Jan. 29.

Following the announcement made early this month of the proposed dissolution of the Farmers National Grain Corp., officers of the organization stated an area corporation to handle grain in the northwest is slated to be set up with headquarters in Minneapolis. They added that the move for changing the setup is already underway, altho the final voting on the Farmers National dissolution will not be cast by the stockholders until Jan. 24, and much of the work has been transferred here. A single agency presumably will be set up, taking over the duties of the corporation and disposing of both the Union Terminal Ass'n and the Northwest Grain Ass'n.

MISSOURI

Higginsville, Mo.—New members recently added to the Missouri Grain Dealers & Millers Ass'n are Martin Abrams, Hamilton, Mo.; Farmers Exchange, Maryville, Mo.; Tarkio Elvtr. Co., Tarkio, Mo.; Pike Grain Co., Sweet Springs, Mo.

St. Joseph, Mo.—Alexander M. Harroun, 66, formerly of the Harroun Elvtr. Co. of St. Joseph, died Dec. 13, in the Presbyterian hospital at Chicago, Ill. Mr. Harroun had been a resident of Chicago for the past 40 years and was a former member of the Chicago Board of Trade.

Kansas City, Mo.—Six directors for the Kansas City Board of Trade for 1938 will be selected from the following nominees: E. A. Cayce, J. K. Christopher, S. G. Cronin, G. A. Johnson, J. F. Leahy, W. J. McNeil, W. M. Neil, H. B. Ragan, Graham Robinson, C. B. Wilser, J. H. Wooldridge, and B. J. O'Dowd.

Shelbyville, Mo.—The Farmers Exchange has installed a new feed mill, operated by a 40-h.p. gasoline motor. The new mill replaces one operated with a 20-h.p. electric motor. The mill will handle ear corn, bundle fodder, sheaf grains, alfalfa, soybean hay, and other bulky crops as well as small grain.

Kansas City, Mo.—The Kansas City Board of Trade will entertain between 100 and 150 needy school children at a Christmas tree party on the trading floor at noon Dec. 24. The children were selected from the kindergarten, first and second grades of the Clay school and will be accompanied by their teachers and principals. A program of songs and recitations by the youngsters will precede the distribution of toys, candy, nuts, books and clothing, gifts of the Board. Buses will carry the little guests from their school to the scene of the party. E. F. Emmons, vice pres. of the exchange, with O. T. Cook, T. A. O'Sullivan and E. C. Hoebel are in charge of the arrangements.

ST. LOUIS LETTER

A 15-h.p. feed grinder has been recently installed in the Baur Flour Mills.

The St. Louis Millers Club held its final dinner meeting for the year 1937 at Hotel Chase Dec. 16.

The St. Louis Grain Club held its annual dinner and meeting at the Statler Hotel Dec. 7. Walter J. Krings, sec'y of the St. Louis Merchants Exchange, who was married recently, was presented with a silver cocktail set. Three new members were elected: Benno Feuer of the Continental Grain Co.; S. Meyhan, Cargill, Inc.; F. Wiecher, Checkerboard Elvtr. Co. Officers elected for the coming year are Maurice T. Scott, pres.; A. W. Abraham, vice-pres.; Wilber B. Christan, sec'y and treasurer. Directors are J. M. Canavan, Merl B. Grover, Frank B. Waddock, Hugh B. McCormick and Harry Adam.

MONTANA

Wheat Basin, Mont.—Mr. and Mrs. Mike Kuntz were shot to death by an angry rancher at Wheat Basin, where Mr. Kuntz operated a grain elevator. Before moving to Wheat Basin, Mr. Kuntz managed the Occident elevator at Antelope. Franke Robideau, 38-year-old Wheat Basin Latin-American farmer, confessed the murder and is now confined in the Yellowstone county jail for safekeeping. Prosecuting Attorney P. R. Heily of Stillwater county filed first degree murder charges against him for the killing of Mr. and Mrs. Kuntz and the attempted murder of their 5-year-old son, Larry. The murder was committed the night of Nov. 26 and discovered the following morning when the child, regaining consciousness, staggered into Wheat Basin's only store and told the storekeeper a man had killed his parents the night before and left them in their car in the elevator. The murder followed an argument over some wheat's ownership.

NEBRASKA

Chadron, Neb.—The Chadron Flour Mills is planning extensive improvements to be made at the plant and new equipment will be installed to increase its capacity.

Manley, Neb.—At a meeting of the stockholders and officers of the Manley Grain Co. recently it was voted to retain Harry Haws as manager during the coming year.

Big Springs, Neb.—C. A. Fuelscher, lessee of the Farmers Elevator, reopened that plant Nov. 29. The elevator had been closed for several months while Mr. Fuelscher traveled for an Omaha Grain Co. the past summer. He plans to handle grain, feed and coal again.

GREETINGS FOR 1938

To my thousands of friends among the country and terminal elevator operators, Inspection Departments, Boards of Trade, Commission Houses, and others I extend every good wish for a

Profitable New Year

You have helped me to become in two years, the largest distributor in the world of

Grain Testing Equipment

Many thanks!

Harry B. Olson

Lincoln, Neb.—Spontaneous combustion in coal in the coal yards of the Bethany Coal & Grain Co. caused a small fire Dec. 3.

Trumbull, Neb.—William Samuelson has leased the Crittenden Grain Co. elevator here. A. R. Rich is employed in the office. The business will be known as the Samuelson Grain Co. Warren McCormick, who until recently operated it for the Hynes Grain Co., is now manager of an elevator at Mondamin, Ia.

Grand Island, Neb.—The Farmers Union Elvtr. Co.'s office was burglarized Dec. 3. Entrance was gained by taking a glass from the door. The safe door was pried open and \$200 in cash taken. Experienced safe crackers are believed to have committed the robbery. On the same night two local grocery stores were broken into and robbed.

McCook, Neb.—Elevator men from Northwest Kansas and Southwest Nebraska held a district cooperative elevator meeting Dec. 17 here, at which managers, directors and leaders were present. B. B. Thowe was chairman. All problems that confront the elevator business were discussed by men well informed on the various topics under consideration.

Platte Center Mills, Neb.—Martin Vanderheiden, who has assisted his father in the operation of the Elgin Mills at Elgin, Neb., for a number of years, has purchased the Platte Center Mills and took possession Dec. 1. The local plant has a ball bearing roller mill, feed grinding equipment and sufficient warehouses for grain, flour and feed. Mr. Vanderheiden has moved his family here from Elgin.

Elberon (Nebraska City p. o.), Neb.—The old elevator, owned by the Farmers Elvtr. Co. of Nebraska City, has been taken down and in its place a modern elevator is being erected. The improvements include a 12 ft. drive, a concrete-lined dump pit and built-in scales. Much of the material is being salvaged from the old elevator. The old elevator was, years ago, one of the Duff Grain Co.'s line and was originally a gravity dump. The Farmers Elvtr. Co. purchased it about 10 years ago, remodeling it at that time.

Lincoln, Neb.—Not only the government is offering corn loan program to Nebraska farmers, but private bankers are also, according to a statement made by George Fox, grain warehouse supervisor for the state railway commission. Tho no 1938 government corn loans have yet been made, Mr. Fox said his office had certified about 35 loans made privately between bankers and farmers. There is a difference between the conditions of the loan in that the government's 1938 program excludes many farmers, because to be eligible the government loan farmers must have participated in the 1937 agricultural soil conservation program. Mr. Fox said his files indicated that banker-farmer loans have been made on granaries holding 500 to 1,500 bus. The warehouse division of the railway commission has agreed to certify and seal these cribs just as they certify and seal government loan cribs. How much the bankers are loaning per bu. was not stated, that being a private transaction between farmer and banker. However, it has been reported the loans were based on 35c per bu. compared with 50c offered by the government.

OMAHA LETTER

Nebraska Consolidated Mills Co. has been issued a building permit to construct a \$30,000 addition to its flour mill.

Ralph W. Whited, janitor at the Omaha Grain Exchange, filed as a candidate for county commissioner in the August, 1938, primary.

The body of William J. Hynes, Jr., young Omaha grain man who died last December, has been removed from a receiving vault and placed in a beautiful granite and marble mausoleum, recently erected. The body of his father, who preceded him in death, was removed from its grave and also placed in the new tomb.

Joseph A. Johnson, 62, former superintendent of the Updike elevator in South Omaha, who retired two years ago, died Dec. 7, in a Council Bluffs hospital after a brief illness. Mr. Johnson had been a resident of Omaha and Council Bluffs for 40 years. He was superintendent of the South Omaha elevator for about 10 years and then went to Council Bluffs elevator as assistant superintendent, where he remained for 15 years. He then returned to the South Omaha elevator and served there as superintendent until his retirement two years ago.

NEW ENGLAND

Boston, Mass.—Mail addressed to Webster Tapper Co. has been returned by the post office with the report "Removed, left no address."

Boston, Mass.—A Snow party is being planned by the Boston Grain & Flour Exchange, Inc., to be held Jan. 23 at Hanover, N. H. It is expected that a group of at least 150 persons will board the Flying Yankee in Boston at 8:30 a. m. of that date, and arriving at their destination, spend the day enjoying winter sports. The com'te appointed by Pres. Carl J. B. Currie to promote the affair consists of Robert C. Bacon, chairman; F. W. Stock, L. A. O'Brien, A. J. Lane, J. C. Davis, C. J. Koelsch, and "N. Sennott.

NEW JERSEY

Hackettstown, N. J.—Beayts Mills is now using its new Sidney Sheller & Cleaner.

NEW MEXICO

Melrose, N. M.—The Farmers Elevator has completed construction of a new 30x50 ft. warehouse and is installing a three high stand of rolls for grinding chops and corn meal.—Farmers Elevator.

NEW YORK

Rush, N. Y.—Tomkinson, Kenyon & Tomkinson Co. is rebuilding its flour mill, changing from reels to sifters.

Ballston Lake, N. Y.—The Saratoga Food Products Co. has erected a building adjacent to the Park mill, installed machinery and will manufacture buckwheat flour and other specialties.

New York, N. Y.—The Produce Exchange elected George Oliver Clark II of H. C. Wainwright & Co. to regular membership. James J. Williamson of J. J. Williamson & Co., Atlanta, Ga., was elected to associate membership.

Buffalo, N. Y.—Two Buffalo Milling Co. executives were elected directors of the Transportation Club at its annual stag dinner. They are Thomas L. Francis of the Eastern States Milling Co. and Edward N. Pugh of the Russell-Miller Milling Co.—G.E.T.

NORTH DAKOTA

Bismarck, N. D.—Appointment of Ed Gannon, of Lewiston, Mont., as production manager of the state mill and elevator was confirmed by the North Dakota industrial commission. Named by A. J. Scott, mill head, Mr. Gannon immediately succeeds L. H. Patten.

Buxton, N. D.—The directors of the Farmers Union Elvtr. Co. of Buxton are considering the erection of a modern plant with capacity for storing 90,000 bus. of grain. The cost of the proposed plant is estimated to be about \$20,000. A. M. Ringham is manager of the plant.

Killdeer, N. D.—At a meeting of the directors of the Killdeer Farmers Elvtr. Co. early this month, Elmer Merrill was elected manager of the elevator, succeeding Joe Kroll, whose death occurred recently. Mr. Merrill is a long time stockholder and director of the elevator and has always been active in the conduct of its affairs.

OHIO

Lancaster, O.—Harley V. Faler is erecting a feed mill here.

Millersburg, O.—A 20-h.p. hammer mill has been installed in the Charm Flour Mills.

Burton, O.—Howard McNish, feed dealer, has installed a new hammer mill and mixer in his plant.

Mt. Gilead, O.—Wagner Bros. elevator is now being operated by Dora Wagner and her son, Richard.

Greenville, O.—The O'Brien Milling Co. has recently installed several new conveyors and head drives.

Green Springs, O.—The O. & M. Seed Co. has installed a Sidney corn drag and an electric overhead truck lift.

Arcanum, O.—Arco Mills is out of business, according to a report stamped on mail addressed to the firm and returned by the post office.

Richwood, O.—Lennox Elevator has installed the large Eureka Cleaner recently purchased from the Sidney Machry, Co.

Fredericktown, O.—The old Lerering elevator, which has not operated for several years, has been sold and is being wrecked.

Columbus Grove, O.—F. X. Annesser, 75, owner and operator of the Annesser Mill Co., died Nov. 27 in a Lima hospital following a brief illness.

West Union, O.—J. P. Shuster and C. M. Mills, trading as Shuster & Mills, sustained loss in a windstorm that damaged their plant Nov. 28.

Ankenytown, O.—H. W. Updike, with headquarters at Fredericktown, will install a feed grinder and engine at his local plant in the very near future.

Westerville, O.—After remodeling our plant at the cost of \$8,500 we now have an elevator with real grain handling equipment.—J. H. Myer, manager Westerville Farmers Exchange Co.

Jackson Center, O.—We are no longer in the grain business here, having sold to the Jackson Center Farm Bureau Exchange on Oct. 1, 1937.—The Jackson Center Grain Co., per J. M. Pence.

Holgate, O.—Holgate Grain & Supply Co. recently purchased some equipment from the Sidney Grain Machry, Co., including 8 ft. drag, combined Sheller & Boot, 36 ft. elevator, drag feeder and large rolling screen cleaner.

Toledo, O.—The mill of Saunders Mills, Inc., located on Eggleston ave. outside of the city limits, burned Dec. 9, with a loss of between \$30,000 and \$50,000. Sparks from metal which passed thru a feed grinding machine started the fire.

Middletown, O.—The F. O. Diver Milling Co., having failed in its efforts to effect a reorganization under section 77-B of the bankruptcy act, has filed schedules of liabilities and assets in the United States District Court preliminary to liquidation of its affairs in regular bankruptcy proceedings. Liabilities are listed at \$58,752.42; assets are valued at \$89,219.80, of which \$51,108.70 represent real estate, \$4,488.86 stock in trade, \$25,403.39 machinery, and \$5,416.30 accounts receivable. Of the liabilities \$18,651.60 are secured.

DeGraff, O.—Sale of the DeGraff Hay & Grain Co. to Farm Industries, Inc., was announced Dec. 13 by Win H. and John H. Kinnan, owners of the company. The Messrs. Kinnan will retain their present interests in the DeGraff property and will operate it, but with the aid of Earl A. Chenault of Columbus, legumes expert of Ohio State university. A program of expansion for the next six months is being planned, which will include the expenditure of \$25,000. Further expansion of dehydrating equipment by installing plants in Bellefontaine and other portions of the state will be a part of the expansion program. The company will manufacture a patented dehydrated alfalfa hay, meal to be known as "Vita Green." This product, Win Kinnan explained, is in demand by manufacturers of stock and poultry feeds.

WEEVIL-CIDE
The
DEPENDABLE
GRAIN FUMIGANT

"WEEVIL-CIDE" is not a general term applied to all grain fumigants. WEEVIL-CIDE is manufactured and sold ONLY by

THE WEEVIL-CIDE COMPANY
1406 West 9th St. KANSAS CITY, MO.

Prices F.O.B. Kansas City

25 gallons or over.....\$1.85 per gal.
Less than 25 gallons..... 2.00 per gal.
25c per gallon extra in 1 gallon cans.

Continental, O.—Eight members of the former board of directors for the Continental Equity Elevator purchased the buildings, machinery and office equipment Nov. 22 when it was sold to the highest bidder. The price paid was \$11,500. The company went into receivership Sept. 4. At one time there were several bidders interested, but at the time of sale the number had dwindled to two, Brady Bros. of Payne and the local members of the old board who are as follows: Gaylon Rose, Dave Donaldson, L. E. Cleaves, Jess Kosch, Ray Rockey, Ralph Schafer, Loren Bird and Louis Ridenour. Chester Donaldson, who acted as receiver for the old company, will continue in this capacity until the old accounts are collected and disposal is made of the merchandise on hand. To further this latter, a public auction was held Dec. 14. Full operation of the elevator will be resumed soon for the first time since last September.

OKLAHOMA

Hennessey, Okla.—H. M. Snare, formerly of Kiowa, Kan., has been appointed sales manager of the Star Mill & Elvtr. Co.

Frederick, Okla.—Work of rebuilding damaged portions of the cotton house at the Farmers Co-op. Grain & Cotton Co. Gin was started within a few days following the fire of Nov. 20, when damage of approximately \$1,000 was sustained. Quick and efficient work by firemen confined the blaze to the cotton house, the gin plant proper not being affected by the fire. C. J. Hubbard is manager of the plant.

Tulsa, Okla.—Shannon Feed Co. has purchased a 3 story building which has housed the company for the past three years. Consideration, \$30,000. L. D. Shannon, pres. of the company, stated that the offices in the building would be remodeled to accommodate the headquarters for serving its various distribution stores in Tulsa, Stillwater, Oklahoma City, Enid and others to be established in Oklahoma and the Southwest.

Oklahoma City, Okla.—Charges of income tax evasion filed some time ago against John F. Kroutil, pres. of the Yukon Mill & Grain Co. and Henry A. Kelly and Wooten Winton, other company officials, died when a federal grand jury reported no bill in the case Dec. 9. Cleared of the charge of conspiring to evade income tax payment of \$9,005.00 on the corporation for 1931, he still faces a civil claim of about \$100,000. Mr. Kroutil, who thruout has insisted he was innocent of any intention of wrong doing, already has negotiated for a settlement of income tax claims against himself, personally.

Cherokee, Okla.—A new whole-wheat flour, feed and grist mill has been erected by Miss Goldie Dorr on her lots on North Pennsylvania ave. The new concern will be known as The Exchange Mills and will manufacture whole-wheat flour, corn meal and stock and breakfast foods. Engine and grinders have been installed in the new structure and grain bins and chutes are practically completed. The grinders are equipped with stone burrs and are of late model. Miss Dorr will be assisted in the business by her father, William Dorr. They expect to have the mill in operation by the first of the year.

Vici, Okla.—The Kimbell Milling Co., of Fort Worth, Tex., which recently purchased the old Wheat Pool Elevator, is working on the property in preparation for the opening of the plant. C. O. Adair will be in charge of the elevator. Mr. Adair operated the Vici Milling Co.'s plant prior to the time it burned, and is thoroughly competent to handle the post. All compartments of the elevator are being repaired, new machinery is to be installed thruout as well as a new dump and new scales, the latter capable of caring for the largest of semi-trailers, with a capacity of some thirty tons. The elevator capacity will be approximately 10,000 bus. The plant will be in readiness to receive the 1938 crop.

PACIFIC NORTHWEST

Rosalie, Wash.—Earl Wood has established grain offices in the Quaife building.

Pullman, Wash.—The Kelly Grain Co. has just completed a new \$3,000 grain warehouse at the north side of town.

Steptoe, Wash.—The Hall-Miller grain elevator was badly damaged by fire of undetermined origin Dec. 7. Chemicals and water carried by a bucket brigade prevented the loss of wheat.

Pomeroy, Wash.—Merle Robinson, who recently purchased the Pomeroy Warehouse and Milling Co., has vacated his grain office in the Black building and will conduct his business hereafter at the mill office.

Portland, Ore.—Carl Blirup, one of the original members of the Portland Grain Exchange and still holding membership, died suddenly at his home in Junction City, Ore., Dec. 1. Mr. Blirup was well known in Portland, making frequent trips to the Exchange.

Yakima, Wash.—The Delicious Cereal Co.'s plant was damaged to the extent of between \$1,000 and \$1,500 Dec. 2 when fire gutted the factory. The blaze was started by an explosion in a heating stove. Philip Schultz, owner of the plant, stated he would rebuild as soon as possible.

Davenport, Wash.—A hearing was held in the superior court here Nov. 25 on the report of J. E. Fraser, receiver in the case of the Old National Bank and Union Trust Co. against the Creston Co-op. Grain Co., and the report of the receiver establishing claims in this matter was approved.

Spokane, Wash.—New members enrolled in Pacific Northwest Grain Dealers Ass'n are the following: Farmers Union Warehouse Co., Juliaetta, Ida., J. H. Millard, mgr.; Farmers Elvtr. Co., Pendleton, Ore., Carl Sager, mgr.; Kendrick Rochdale Co., Kendrick, Ida., William Watts, mgr.—Ted Brasch, sec'y.

Salem, Ore.—The Fred Spires Feed Co. has moved into its new building on West Sherman street. Another addition will be built on the present site just east of the room housing the grinding and seed cleaning machinery, which will later be occupied, also. The old location was razed, the seed company having occupied temporary quarters elsewhere until the present new quarters were completed.

Nyssa, Ore.—The Nyssa Feed & Flour Mill was leased to J. C. Himler and B. F. Locke, by the owner, Phin M. Warren, Dec. 2. A feature of the mill under the new management will be that of custom grinding and milling. Mr. Himler will act as business manager of the plant, while Mr. Locke will be in charge of the milling department. The mill was originally started as a stock company in 1917, with ten members, all of whom dropped out, one by one, for various reasons, leaving Mr. Warren sole owner. The present building was constructed under his ownership.

Hermiston, Ore.—Improvements started last September by the Farm Buro Co-op. and which include additions to the elevator and a new warehouse, have been completed. Storage and elevator space have been enlarged by an addition 60x142 ft., completed at a cost of \$10,500. Stock and buildings now represent an investment of approximately \$47,000. All forms of turkey and chicken mashers are mixed at the plant as well as cow feeds and special mixtures. The board of directors of the company consists of R. Saylor, J. H. Reid, H. L. Ott, R. V. Jones, P. Quinn, and H. Bean. Henry M. Sommerer is the manager in direct charge of the plant.

Spokane, Wash.—Grains are exempt from taxation for the first year after growth while still in ownership of the original producer. From that date on the farmer or dealer will be taxed alike regardless of who the owner may be. The assessment date has been changed from March 1 to Jan. 1. Grains stored in a public warehouse or terminal while awaiting transit to out of state markets, are exempt from taxation for six months from date of entry of such warehouse. Therefore, all grain of the 1936 crop will be subject to tax Jan. 1, 1938, unless it is stored in a terminal awaiting transit to out of state markets and has not been in the terminal six months. On Jan. 1, 1938, farmers will be taxed on their 1936 crop if still held in country elevators.—Ted Brasch, sec'y Pacific Northwest Grain Dealers Ass'n.

Canby, Ore.—R. M. Mann, formerly associated with the Slentz & Mann Feed Mill at Salem, has purchased the feed mill of B. M. Randall & Co., and has taken possession. Following the sale of his interests in the Salem mill, Mr. Mann spent several months in California.

PENNSYLVANIA

Philadelphia, Pa.—Max Supowitz, member of the Commercial Grain Exchange, died recently at the age of 73.

SOUTH DAKOTA

Letcher, S. D.—Cornelius P. Murphy, 49, grain dealer, died suddenly on Dec. 2.

Pierre, S. D.—Sheldon Reese contemplates construction of an elevator, warehouse and storage house on ground east of the freight house.

Trails City, S. D.—Math Neiderkorn, who has spent several months at Gascoyne where he had charge of an elevator, is planning to locate in Trails City where he will re-open the Bagley elevator.

Blunt, S. D.—Ted B. Schultz, of Lemmon, has taken over the management of the Atlas Elevator in Blunt during the absence of W. O. Orchard, who was obliged to take leave of absence because of ill health.

Rapid City, S. D.—The Tri-State Milling Co. now has in course of construction a new milling plant, to be completed by next Feb. The new mill will be 80x37x80 ft. and will have 6 floors. The entire milling section of five floors will be air conditioned. The mill building will be of concrete and steel construction with brick walls. "Daylight" lighting will be effected by the use of modern hollow glass blocks laid in panels, employed because of their high thermal insulating value and because their properties permit a maximum of light with a minimum of solar radiation. Hollow glass blocks have also been found to have completely eliminated the window sweating nuisance. Adjoining the mill will be a fire proof warehouse 90x34 ft. The new grain elevator has just recently been completed and is now in operation. The new mill displaces the old one that has been in operation since 1889. This old mill will be remodeled and used as a commercial feed mill. C. A. Quarnberg is pres. and E. F. Willard is superintendent of the company. Horner & Wyatt are designers and constructing engineers of the new plant.

SOUTHEAST

Denton, N. C.—J. C. Taylor recently purchased a large cleaner from the Sidney Grain Machinery Co.

Mathews, N. C.—Wallace Bros. are now using the large cleaner recently purchased of the Sidney Grain Machinery Co.

Reedsville, W. Va.—The Arthurdale (W. Va.) Co-op. Ass'n has purchased the Preston County Milling Co. from C. J. Bolyard and will manufacture buck-wheat and grind feed.

Birmingham, Ala.—W. C. Kennedy, 48, sec'y-treas. of the Overton-Kennedy Flour & Grain Co., died Dec. 16 after a lingering illness. He was one of the city's most prominent men in the grain and flour field, and for a number of years was with another flour and grain concern in the city before he and Joe Overton formed their own company. Members of the Birmingham Grain Dealers Exchange acted as honorary pallbearers.—G. H. W.

Secular-Bishop Grain Co.

GRAIN MERCHANTS

KANSAS CITY SUPERIOR OMAHA

ELLIS DRIERS

Known the world over for reliability and perfection of product. Direct Heat — Indirect Heat — And Steam Heat. Also . . .

A complete line of Rotary Driers and Feeders for mill and feed plants.

The Ellis Drier Co.

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Clinton, N. C.—Atkins Bros. recently installed a corn grader with collector, purchased from the Sidney Grain Machry. Co.

Louisville, Ga.—T. B. Kelley has recently opened up a big corn and feed mill on his property known as Warren's Mill, three miles from here.

Montgomery, Ala.—The Mobile Elvtr. Co., owned by Chicago interests, has been incorporated, with a capital stock of \$10,000. The principal place of business will be in Montgomery. The company has been formed to construct, acquire and operate elevators for the storage of grains and cereals of all kinds and to deal generally in grain products. Officers are Albert K. Orschel, pres.; Thomas E. Kiddo, vice-pres.; Samuel W. Block, sec'y-treas., all of Chicago. These men are also the incorporators and the only stockholders.

Birmingham, Ala.—Birmingham grain dealers and representatives of the Alabama extension service, the State Department of Agriculture and industrial corporation purchasing agents met in Birmingham, Dec. 16 to plan for improving the corn and other feeds grown in Alabama. Failure of farmers to meet standard grade requirements, it was pointed out, not only lowers the prices for which they must sell, but their product is rejected because of inferior quality. Grain dealers stated they had been unable to sell feeds made of Alabama corn because farmers, instead of chopping off the ends of the ears, ground all up together, thereby mixing rotten grain with the good and lowering the grade. The dealers agreed to take the matter up with the farmers from whom they buy and try to persuade them to comply with trade standards.—G. H. W.

TENNESSEE

Memphis, Tenn.—The Joe Wade Brokerage Co.'s business is being carried on as in the past by Joe Wade, Jr., following the death of Joe Wade, Sr., Nov. 19, an account of which was published in the Dec. 8 issue of the Journals.

TEXAS

Fort Worth, Tex.—Davitt Grain & Feed Co. is closing its office and liquidating its business.

Fort Worth, Tex.—The Uhlmann Elvtrs. Co. of Texas, Fort Worth, have been enrolled as members of the Texas Grain & Feed Dealers Ass'n.

Elsa, Tex.—The Engleman Gardens Ass'n has installed a rotary dehydrating machine for processing grain sorghums, legumes, and citrus meal.

Hamilton, Tex.—Henry Weiser of Hamilton Mill & Elvtr. Co. was badly injured in an auto wreck about 2 a. m., Dec. 13. He is at St. Joseph hospital in Fort Worth.

Austin, Tex.—Validity of the Texas chain store license tax statute under which a sliding levy ranging from \$6 per unit on small establishments to \$750 per unit on large organizations is imposed has been upheld in a decision handed down by the Texas supreme court.

Dallas, Tex.—Butler Bros. paid fines totaling \$3,000 in Federal Court recently, after pleading nolle contendere in three charges of violation of the carrier act governing interstate truck shipments; J. M. Cody, traffic supervisor of the firm, paid fines of \$200.00 on similar pleas. In addition fines of \$10,700 against Butler Bros. were probated for a period of one year. They were charged with soliciting and accepting rebates on shipments.

Higgins, Tex.—Spontaneous combustion due to an accumulation of dust thru many years, is believed to have been the cause of a fire that destroyed the old J. T. Patton elevator Dec. 8. The explosion was at the bottom of the elevator, which, being a frame structure, was quickly consumed by the flames that shot up to the top within a few minutes. The plant belonged to the Henry Frass estate. The loss is estimated at about \$6,000. Mr. Patton, who purchased wheat for the Humphreys Grain Co. of Enid, has operated the elevator for the past year. At the time of the fire only a small amount of wheat was on hand.

UTAH

Salt Lake City, Utah—Mail addressed to E. O. Muir & Co. at 438 Atlas Bldg. has been returned by the post office stamped "Unclaimed."

WISCONSIN

Black Creek, Wis.—Center Valley Co-op. Ass'n has installed a new feed mill.

Beloit, Wis.—Raessler Seed Farms have recently installed a large Sidney seed cleaner.

Valders, Wis.—Valders Elvtr. Co., operated by Elmer DeBroux, has installed a new feed mill.

Milwaukee, Wis.—William C. A. Koepp, a member of the Milwaukee Grain & Stock Exchange since 1934, died Dec. 6.

Mt. Horeb, Wis.—Mt. Horeb Hardware Co. has installed the large cleaner recently purchased of the Sidney Grain Machry. Co.

LaCrosse, Wis.—Wallace R. Hyde, aged 80 years, associated with the Cargill Grain Co. for 35 years, passed away Dec. 8 after a lingering illness.

Baraboo, Wis.—The Mazomanie Mills of Mazomanie, Wis., have opened a feed store here, formerly operated by E. R. Simons. The new store will be in charge of William Cramer.

Madison, Wis.—Additional equipment is being installed at the Garver's Supply Co.'s mill, which will greatly improve the plant's manufacturing facilities. It is expected most of the work will be completed by Jan. 1. J. R. Carver is company president.

Heavy Sales of Corn to Exporters

Sam Raymond reports that sales of corn to exporters have been heavier than ever before. Since the beginning of this season exporters have bought over 20,000,000 bus. of corn.

Championship Corn Growing Methods

Lafayette, Ind.—R. L. Heilman, of Hope, is the new Indiana Five-Acre Corn King, with an official yield of 179.1 bus. per acre, the second high record in the history of the Five-Acre Corn Club. A. C. Brown was runner-up, with a yield of 173.6 bus. per acre.

Heilman's record yield was made with his own white corn hybrid, J.C.W. No. 1, one of the parents being Johnson County White, a leading variety in southern Indiana. It was grown on second bottom land, drilled in rows 36 inches apart, kernels dropping 9 inches apart in the row, and 2-14-6 fertilizer was drilled in the row at planting time.

To the fertilizer Heilman attributed an extra yield of 30 bus. to the acre, and a 10-day advance in maturity of the crop.

Change Minimum Ocean Grain Rates

A revised schedule of minimum rates covering grain charters and grain cargo bookings on liners from the St. Lawrence, Halifax, St. John, N. B., and all northern range Atlantic ports in the United States, has been issued by the Tramp Shipping Administrative Com'te, London, Eng.

A minimum rate of 2s 9d per quarter of 480 pounds will apply on heavy grain to picked ports in the United Kingdom and continent, these ports embracing London, Hull, Antwerp, Rotterdam, Cardiff, Barry and Swansea.

The rate of 2s 9d is inclusive of the extra 1½d per quarter hitherto applying in respect of winter warranty B.N.S. insurance. If two ports of loading on the St. Lawrence an extra charge of £75 will be applied. On barley the minimum rate will be 2s 7d per quarter of 400 pounds and on oats 2s 5d per quarter of 320 pounds. On shipments of "feed" wheat the barley rate will govern.

Shipments of soybeans may be carried at 2s 10d per quarter of 480 pounds or 2s 7d per quarter of 400 pounds.

I. C. C. Decisions

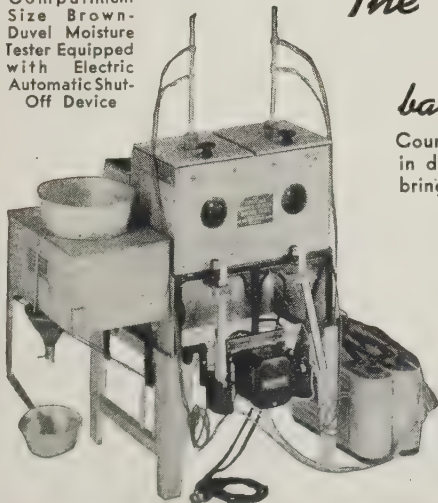
The Commission has refused to suspend Sperry's I. C. C. 376, which applies a terminal charge of \$2.27 a car at A. E. Staley Mfg. Co.'s Decatur, Ill., plant. The charge became effective last Nov. 15.

The sixth supplemental report of the Interstate Commerce Commission to Docket 17,000, Part 8, cottonseed, cottonseed products and related articles, transfers the southern portion of Kansas, and small parts of eastern Kansas and southern Missouri to the southwestern region.

In a six to five decision, the Interstate Commerce Commission reaffirmed its findings in Docket 26817, Globe Grain & Milling Co., v. C. B. & I. et al. The grain company contended that failure of the Southern Pacific to obey instructions and hold a car of corn to be diverted "only on thru rate," when thru rate did not apply, constituted misrouting. Complaint sustained.

On re-hearing, the Commission reversed its findings in Docket 26875, J. G. Boswell Co., Ltd., et al. v. A. T. & S. F. et al., deciding that rates on domestic cottonseed and soybean cake and meal and related vegetable cakes and meals, from Litchfield Park, Ariz., and Los Angeles, Fresno, and Corcoran, Cal., to points in California, Oregon, Washington, Idaho, Montana, Wyoming, Nevada, Utah, Colorado, and New Mexico, were prejudicial to the extent that they exceeded, distance considered, contemporaneous rates on imported soybean cake and meal from Los Angeles harbor, Long Beach, San Francisco, Oakland, Portland, Tacoma, and Seattle to the same destinations. The prejudice is to be removed by new tariffs effective on or before Feb. 17.

Showing Two
Compartment
Size Brown-
Duvel Moisture
Tester Equipped
with Electric
Automatic Shut-
Off Device



The Government is making
CORN LOANS
based upon Moisture Content

Country Elevators can render farmers a GREAT Service in determining the amount of the loan by having them bring in samples to be tested
WITH

SEEDBUERO
(Trade Mark)

GRAIN TESTING EQUIPMENT

Catalog on request... PROMPT SERVICE

SEED TRADE REPORTING BUREAU

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223 W. JACKSON BLVD.

CHICAGO, ILL.

Field Seeds

Fargo, N. D.—Fire recently damaged the plant of the New Day Seed Co.

Sullivan, Ill.—The Landers Seed Co. has opened a seed store here.

Tekoa, Wash.—C. R. Frazier has purchased the Wallace Grain & Seed Co.

Shenandoah, Ia.—W. E. Ivie has been appointed head of the store office division of the Earl E. May Seed Co.

Portland, Ore.—The Pacific States Seedsmen Ass'n will hold its annual convention here May 31-June 1.

Norfolk, Va.—The Watts Seed Co. has been incorporated with \$50,000 capital stock and C. E. Watts as pres.

Norfolk, Va.—The Market Seed Store, Inc., has been incorporated with \$15,000 capital stock. C. Earl Crain is pres.

Lexington, Ky.—Capital stock of the Lexington Seed Co. has been increased from \$10,000 to \$20,000.

Leesburg, Fla.—W. E. Link has opened a seed, feed and fertilizer store here, employing D. J. Strickfaden as manager.

Jefferson, Ia.—Gust Marten has opened a seed store in Jefferson, and is spending the time before spring seeding getting acquainted with residents of the community.

Worcester, Mass.—A hearing on proposed changes in the Massachusetts seed law was held here Dec. 7. Seedsmen and seed ass'n representatives attended.

Klamath Falls, Ore.—Adams Seed Co. now operates from its new and modern seed plant, designed particularly for seed cleaning and storing operations.

Painesville, O.—Martin-Pratt Seed Co. has been incorporated by Joseph F. Martin and P. C. Pratt to take over the seed business of the Joseph F. Martin Co.

Louisville, Ky.—Salesman John Posey of the National Seed Co., broke his arm when he slipped and fell on the ice in front of the Farmers Supply Co., at Danville, Ky.

Philadelphia, Pa.—Clarence A. Neal, pres. of the Philadelphia Seed Co., Inc., passed away Dec. 8. Many friends in the seed trade sympathize deeply with his associates and his family in their loss.

Chicago, Ill.—The midwinter meeting of the Farm Seed Group of the American Seed Trade Ass'n will be held in the Palmer House, Jan. 24, announces its sec'y, L. M. Brown.

Hollywood, Fla.—Formation of a Florida Seed Council, composed of members of the Florida seed trade and state seed officials, was planned at a meeting of the Florida State Seedsmen's Ass'n here Dec. 5. An early meeting at Tallahassee with state officials is expected to complete plans for the Council so they can be submitted to the membership of the state ass'n at its meeting in January.

Ames, Ia.—There is enough hybrid seed corn in the mid-west to plant half the normal acreage next spring, as compared with enough to plant 20 per cent of the acreage last spring.—I. W. Arthur, Iowa State College.

Ottumwa, Ia.—A wholesale distributing branch is being opened here by the Michael-Leonard Seed Co. of Sioux City to handle Iowa hybrid seed corn, and field, garden and grass seeds. W. J. Anderson has been named manager.

Chicago, Ill.—Edward S. Leonard has opened office space here for the conduct of his personal business, and plans to re-enter the seed business in the near future. He has sold his interest in the Michael-Leonard Seed Co. of Sioux City, Ia.

Ontario, Ore.—A third northwestern unit of the Michael-Leonard Seed Co., of Sioux City, Ia., has been opened here to dry seed sweet corn, peas and beans for shipment east. Other plants of the company in this district are at Ashton and Moscow, Ida.

Fargo, N. D.—Thatcher wheat produced the most satisfactory milling and baking results in tests of this year's wheats at the North Dakota agricultural experiment station. The tests were not considered conclusive. Only eight samples of Thatcher were submitted.

Buckhannon, W. Va.—West Virginia's first Farm Seed Show & Sale was held here Dec. 14-15, under the sponsorship of the West Virginia Associated Crop Growers. Standards of purity and germination were maintained by inspection and testing before showing.

Seymour, Wis.—The Outagamie Co-operative Seed Producers Ass'n has been incorporated by Emil Mueller, Herbert Mueller, Theodore Cloud and Harvel Maass, of Seymour, and Victor Leppla, Appleton, to deal in seed grains, hybrid and open pollinated seed corn, grass seeds and farm supplies.

Toronto, Ont.—Edwin Watkins is pres. and manager of the newly organized Watkins Seeds, Ltd., which has its main office here, and its fully equipped seed cleaning plant and warehouse at Brampton, Peel County. Mr. Watkins is also pres. of the Canadian branch of the British firm, Edward Webb & Sons, Ltd.

Ashland, Ky.—Rex A. McClure, Sr., 67, passed away Dec. 9 in a Louisville hospital following an operation. An Ashland resident for the last 20 years, Mr. McClure was well known thru the Tri-State area, having been connected with several wholesale firms. He was a member of the seed and feed firm of Bowling & McClure at the time of his death.

Iowa City, Ia.—Fire destroyed the 3-story and basement plant of the National Hybrid Seed Co., Dec. 12. The plant was the old chair factory that the seed company remodeled into a hybrid corn plant last spring, and was located at the edge of the city, two blocks from the nearest fire hydrant. Destroyed with the building was the new machinery, and 45,000 bus. of hybrid seed corn. Rebuilding plans are being considered but location for the new plant has not been picked. Most of the damage to the old plant was covered by insurance. Headquarters of the company are Anamosa, Ia.

Little Rock, Ark.—Sale within or transportation into Arkansas of seed containing more than 1,000 seeds of dodder per pound of pure seed, or more than 250 seeds of cheat, or more than 5 seeds of Johnson grass is now prohibited. All of these seeds are often found in lespedeza seed, especially dodder. Before purchasing stocks of lespedeza seed, merchants should ascertain the amounts of these noxious weeds present, and should refuse any which contain over the legal limit. Such seed is subject to seizure and destruction. The merchant's best protection is to require from the seller (unless he is an established seedsmen) a signed statement.—Arkansas State Plant Board.

Southern Seedsmen Encourage Sidelines

Sidelines and seasonal retail stocks help spread the business of seedsmen over the dull months and develop a continuous volume of profitable business, declared the paper of Emile Scheuermann, Mobile, Ala., read before the midwinter convention of the Southern Seedsmen's Ass'n, held in Hollywood, Fla., Dec. 5, 6 and 7. Sidelines, he declared, are a necessity to the average retail seed store.

PRES. WILLIAM P. WOOD, JR., Richmond, Va., presided at the meeting. In his annual address he said:

"Midwinter meetings of the Southern Seedsmen's Ass'n have become so popular that the annual convention last June voted to make them permanent.

"We are meeting in Florida again for the first time in 20 years. I hope this precedent may be followed in the future and that our midwinter meetings may be regularly held in warm southern cities.

"Probably no state in the Union has so many seed stores as Florida. This is a splendid opportunity for us to get acquainted and for Florida seedsmen to learn what a splendid organization we have in the Southern Seedsmen's Ass'n.

"The membership com'ite feels, after contacting many of the southern seedsmen who are not members of our ass'n, that we should have a special class of voting membership who will be admitted at \$15 annual dues. I have recently attended several meetings of state seedsmen's ass'ns in the South and found a large number of retail seed merchants who promised to join our ass'n, providing they be permitted to pay only \$15, but said they could not afford to pay \$25. With the important Federal and State legislative matters coming up, and proposed increases in freight rates, etc., it is most important that all seedsmen join an ass'n, and we should make every effort to make it possible for the small retail merchants in the south to become members of our ass'n.

"I wish to invite the ass'n to hold its next June convention in Richmond, Virginia. All of the seedsmen in Richmond have agreed to do everything possible for our pleasure."

The advantages to the small seed merchant of a membership in the regional Southern Seedsmen's Ass'n was the subject of discussion led by Stuart C. Simpson, Monticello, Fla., chairman of the membership com'ite. Agreement was reached that this class of the trade should be invited to associate membership, giving it all the contacts and advantages of membership available to regular memberships except voting power.

DR. FRED HULL, Gainesville, Fla., experiment station agronomist, told about hybrid seed corn breeding experiments to develop varieties adapted to Florida. A weevil resistant corn is sought.

WILLIAM K. WILEY, Asheville, N. C., sharply scored county agents who sell seed to farmers at wholesale prices in competition with

Directory

Grass & Feed Seed Dealers

CRAWFORDSVILLE, IND.
Crabbs, Reynolds, Taylor Co., clover, timothy.

GREEN SPRINGS, OHIO
The O & M Seed Co., seed merchants.

PAULDING, O.
Stoller's Seed House, wholesale field seeds.

ST. LOUIS, MO.
Mangelsdorf & Bro., Ed. F., wholesale field seeds.
Scott, T. Maurice, field seeds, carlot originator

ED. F. MANGELSDORF & BRO.

Buyers and sellers of
Sweet Clover, Alfalfa, Lespedeza, Clovers, Timothy, Grasses, Fodder, Seeds, Sudan Grass, Soy Beans, Cow Peas
St. Louis, Missouri

retail seedsmen. The purpose of the county agent system, he declared, is to bring scientific knowledge, accumulated at the experiment stations and colleges, to the attention of the farmers. Instruction of the farmers on soils, crops, marketing, livestock, and similar problems is the fort of the county agent. While in most states county agents are not allowed to buy and sell, many cases are on record where they have been active in organizing cooperative groups that do buy and sell. The wholesaler who sells to such groups, he said, makes business difficult for the retailers. Remedies he suggested included reporting of known cases where county agents exceed their purposes, and strong retail and wholesale seed organizations that can bring pressure to prevent unfair practices and violation of laws.

R. C. HUFFMAN, Shelbyville, Tenn., described the production of crimson clover in Tennessee. Originally an old world crop, crimson clover became established in this country when importations of seed from France were prohibited due to post World War conditions. He classified crimson clover as a good winter forage crop for livestock.

E. D. HICKS, JR., Nashville, Tenn., led a discussion on the seed tariff question in the South. The discussion concluded present tariffs are generally satisfactory, and that most seedsmen prefer to buy from American growers.

F. D. KELLER declared that self preservation is the first law of nature and that group action is necessary to this self preservation, in an able paper on seedsmen's ass'ns. The trucker-peddler, county agent selling of seeds, state legislation, Mr. Keller considered state ass'n problems.

RESOLUTIONS adopted included a suggestion by the Southern Seedsmen's Ass'n that shippers take steps at the time contracts are made to protect their interests in case of market decline and default on contract by purchaser; and a suggestion that the practice of shipping carlots of seeds into the south for warehouse storage, the stored seed being made available to brokers and others not regularly engaged in the seed business, be eliminated.

PRES. WOOD'S invitation to hold the June convention in Richmond, Va., was accepted.

ENTERTAINMENT included a banquet at the hotel, a visit to the Everglades, a tour of a sugar refining plant, and luncheon at the Belle Glade experiment station.

More than 100 representatives of leading seed houses were present for the three day meeting.

Now is the time to reclean seeds and have them tested for purity and germination.

Hybrid Seed Corn Production Increasing

Hybrid seed corn production is rapidly increasing and germination is high, according to reports from Indiana and Iowa.

Production in Indiana from the current crop is sufficient to plant 40% of next year's total Indiana corn acreage, estimates K. E. Beeson, sec'y of the Indiana Corn Growers Ass'n. Over 300 Hoosier hybrid seed growers are making approximately 5,000 acres of hybrid seed. Practically all of this has been inspected for certification. Hoosiers are again advised that only true, fresh cross hybrids from foundation seed stock may be expected to give the increased yields, strength of stalk, well developed root system, and uniform heights of ears that have been factors in the phenomenal increase in the popularity of hybrid corn.

Iowa farmers will have approximately 300,000 bushels of certified seed and about 350,000 bushels of uncertified hybrid seed available for planting next spring, enough to plant nearly 5,000,000 acres, according to Dr. R. H. Porter, head of Iowa's State College Seed Laboratory. Iowa's hybrid seed has high viability. "The average of 43 samples was about 97%," reports Dr. Porter. "The lowest sample germinated 90%, the minimum allowed for certification, but many germinated 100%." To be certified under Iowa rules hybrid seed corn must have out-yielded open pollinated corn at least 10% in two years out of five, must germinate 90% or better, must be produced from clean, inbred lines and single-cross parent stock, and must be grown in isolated plots and properly detasseled.

Dodder Troublesome in Indiana

"A dodder year" was the term used by Dr. H. R. Kraybill, Indiana seed commissioner, to explain the unusual amount of dodder appearing in the 1937 crop of clover and alfalfa seed in Indiana. The season, he said, was favorable to the germination of dodder seed that was dormant in the ground for a number of years. Several cases have been found where dodder reappeared this year after dodder plants had not been seen for five or six years. The high proportion of hard seeds produced by dodder makes it possible for the seeds to lie dormant for several years before germinating.

Dodder is a parasitic plant affecting clovers, alfalfas, lespedezas and some other plants, a yellowish twining vine without leaves that lives entirely off the host plant and drops its connection with the ground after it becomes estab-

lished. Seed laws of most states list dodder among the most noxious weeds.

"The last three lots of seed tested by us," reports a letter from an Indiana seed dealer to Commissioner Kraybill, "came from farmers living 30 to 50 miles apart. All contained dodder."

New Seed Trade Marks

"Quintuplet" is trade mark No. 396,678, filed by the Germain Seed & Plant Co., Los Angeles, Cal., for flower seeds.

Two modernistic vertical lines, a blank space for labeling purposes, and the "Corneli Keystone" sign in the lower left hand corner constitutes trade mark No. 386,771, filed by the Corneli Seed Co., St. Louis, Mo., for vegetable, garden, flower, farm, and field seeds.

Cash Carrier Saves Steps

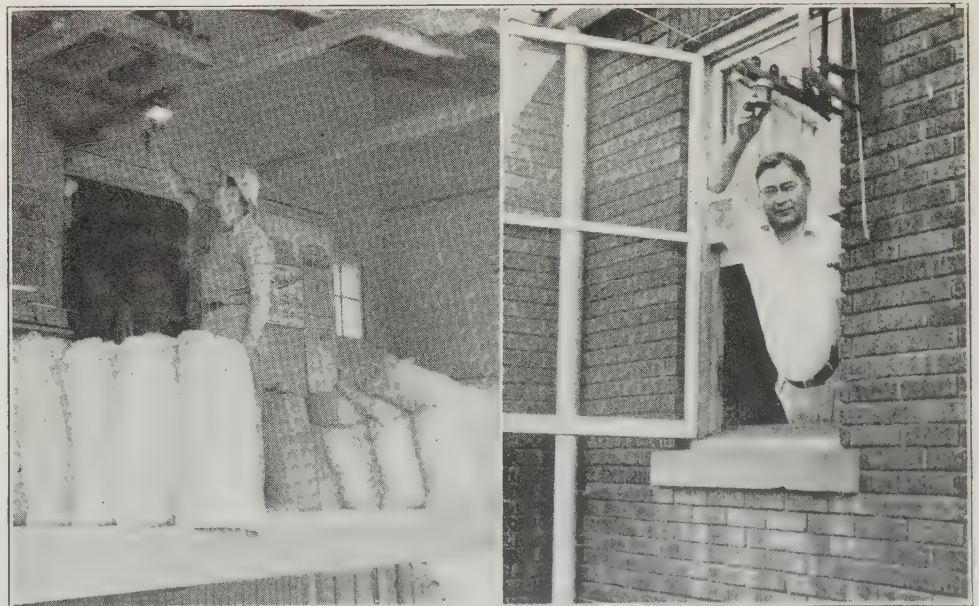
A metal box carried on an overhead wire saves many steps daily between the office and store of the Edgerton Elevator, Edgerton, O., and its 8,000 bu. elevator beside the tracks of the New York Central railroad.

The brick office and store building on the street side of the property is about 30 feet from the warehouse and elevator where farmers pick up their purchases of seeds, feeds, and sundry farm supplies. Stretched across this space is the heavy wire track that carries the money changer.

The kicker for the money changer is attached to the outside rear wall of the office, close to a window that has a storm window in the winter time, a screen in the summer time, swinging outward easily, door-fashion, for access to the money changer and its kicker.

From the office to the elevator warehouse the money changer rides the wire up an incline. For return of the money changer with orders or payments for merchandise, the warehouse foreman needs only to trip at catch. Gravity carries the device back to the office. An electric bell advises the office or the warehouse when the device is wanted at the opposite end of its track.

"Winter and sleet," says Manager Ross Tomlinson, "little affects use of the device. Moving frequently back and forth over the wire, the money changer keeps its track clear. The only thing we have to worry about is whether some extra high truck will catch on the wire and tear it down. But even if this happens the wire will break and we need only stretch a new track to put the changer back in use."



Cash Carrier of Edgerton, O., Elevator Saves Steps and Time.

CRABBS REYNOLDS TAYLOR CO.
CRAWFORDSVILLE, IND.
GRAIN
Clover and Timothy Seeds
Get in Touch With Us

We are in the market for
all kinds of
FARM SEEDS
Send samples for highest bid
to our nearest office:

SIoux CITY, IA. IOWA CITY, IA.
NORFOLK, NEB. MANKATO, MINN.
SIoux FALLS, S. D. CARROLL, IA.
BILLINGS, MONT.

MICHAEL-LEONARD SEED CO.
formerly Sioux City Seed Co.

Grain Trade Builders

Grain & Feed Journals: I am looking for some snappy trade building ideas. Do you have something along this line?—Miss Margaret Stotts, manager, Farmers Elevator Co., Inc., Barnard, Mo.

Dear Miss Stotts: While an exhaustive review of your subject would fill a book, it may be noted that trade building methods may be roughly divided into three classifications—the quick, get-acquainted stunts like field days, prize contests, premium offers, etc.; the slower building methods that include the expansion of a business into correlated and aiding lines, increasing services, employing salesmen to work among the farmers, putting on feeding, or growing demonstrations, etc.; and the long range methods that increase business gradually thru introduction of high yielding strains of corn and field seeds, better feeds and helping farmers generally to do a better job of farming.

No different from other folks, farmers are interested primarily in the problems of better farming. The eternal hope of getting something for nothing that races in the blood of the confirmed buyer of lottery tickets has its counterpart in the tiller of the soil, and is unquestionably behind the success of many of the stunts that have attracted favorable and profitable attention to a country grain elevator. It is a "something extra" that satisfies a bargaining instinct and attracts trade.

It was a twist to this idea that brought success to the shetland pony stunt of an Iowa feed dealer when he opened his own grinding and mixing plant hardly two years ago. Most folks like youngsters and it would be pretty hard to find a youngster uninterested in a shetland pony. This dealer simply gave votes with purchases of feed and other farm supplies and the purchaser cast the votes for whatever youngster he wished to receive the pony. The stunt rolled up a \$20,000 gross volume in three months, and gave the feed mill a profitable start. Of course, he did plenty of advertising on the idea and had the shetland pony on display long before the day of vote counting.

An Ohio retailer of small items applied one day each week the something for nothing appeal to its purchase tickets. A chemical in a space on a coupon attached to the ticket responded to wetting and revealed printing. In one out of each 50 checks the printing showed "free," and the lucky customer paid for his purchase with this stub. The printing revealed by wetting the coupons on the other 49 checks, however, simply read "better luck next time."

A dealer in Illinois used the premium idea as one of the stunts that gave his business a quick start. With each purchase of five tons of feed he gave the purchaser a pair of coveralls. Doubtless the free coupon on the sales slip stunt could be applied to the giving of similar premiums.

This same Illinois dealer did not depend upon his premium stunt alone to build a large volume of trade quickly. When he opened his business he bought 60 potted geranium plants and personally delivered them to 60 farm wives as a gift with the compliments of his business (described on the card that went with the plants). At his store he kept a humidifier full of tobacco and a pipe cleaner, with a card inviting his customers to clean out their pipes and "fill up!" In the winter time he kept a pot of coffee on the stove for those who were chilled by their drive to town.

Slower than novelties, but none the less effective as trade builders, are feeding or growing demonstrations. Care must be used, however, in staging demonstrations, that the products used will outdo the competition, or the demonstration can turn into a boomerang. Demonstrations are practiced by both seed and feed firms; as in the trial plots where open pollinated and hybrid corn are grown side by side, and in the hog feeding trials where a given lot of pigs is evenly divided, half of them being

fed with the rations commonly used in a community, the other half being fed a ration properly balanced with the feed the elevator has for sale. The right kind of publicity associated with such tests is a great business builder.

An inexpensive variation of the feeding demonstration idea attracted a great deal of favorable attention for an Iowa feed dealer. He divided one of his show windows into two pens, placed a hover and a group of baby chicks from the same hatching in each pen. The chicks in one pen were fed the customary farm ration; the chicks in the other pen were fed the feeds he was boosting.

Chicks grow fast and in hardly any time at all the birds eating his favored feeds far outstripped their competitors.

A Wisconsin feed and produce dealer looked ahead a good many months when he expanded on the poultry feeding demonstration idea. He bought an incubator and a lot of hatching eggs from a leading strain of single comb White Leghorns. A sizeable lot of the birds from his first year of operating the hatchery he kept for his own foundation stock. Thereafter he built up a good business as an aiding sideline to his feed business by producing his own hatching eggs, incubating them into baby chicks and selling the baby chicks to the farm trade. Feeding instructions went with the chicks and these feeding instructions recommended his feeds. His hatching business naturally expanded to include custom hatching of eggs from the farm birds that cracked thru their shells and first breathed the breath of life in his incubators, and the farmers with whom he did business profited from keeping pure bred and profitable chickens.

Simply installing a small hatchery or handling baby chicks sometimes works wonders for the poultry feed business. The A & B Feed & Seed Store at Edwardsville, Ill., installed a small hatchery last January and in its first five months of operation discovered that it brought 25% more people to its elevator and increased its business on poultry feeds by 300%.

Feeding comparisons on chicks are practiced successfully by many elevators that handle this seasonal sideline, probably because they can be made so easily. Stock has to be kept in batteries and fed and watered and kept warm anyway, so it is little trouble to set aside a battery of birds, keep separate lots of feed handy and feed different brands or different mixes to different lots of chicks.

In building his feed business a Wisconsin dealer made a quick and natural expansion into the produce business. Twice a week he went thru the country with a small truck to buy eggs

from farmers. When acquaintance was established and he knew how many birds a farmer kept and how many eggs they were producing it was little trouble to take along a few sacks of feed, recommend them to the farmer, and show him how his production of eggs could be increased.

Of course, feeds and a good many other farm supply items can be just plain peddled. An Indiana miller, faced with a dwindling business, simply loaded his truck twice a week with feeds and went from farm to farm to peddle them. Soon he had built up regular customers and delivery routes.

Like the history festooned Mohammedan who commanded a mountain to come to him, then, when nothing happened, decided "Mahomet will go to the mountain," an endless number of elevators have employed sales and service men to call regularly on the farmers in their trade territory, helping the farmer to better farming or feeding practices, keeping in touch with market conditions, taking orders for feeds or other farm supplies. Delivery men, where delivery service is extended, are taught to sell and take orders for the next delivery. Two examples that come to mind are the Farmers Mill & Elevator Co. at Columbia City, Ind., and the Lapeer Elevator at Lapeer, Mich., the latter being operated by a capable and enterprising lady with the sparkle of Dublin in her eyes.

Employment of salesmen carries with it another responsibility, that of selecting men who will use judgment in the selection of risks, for in all communities there is at least a part of the trade who will demand credit. An overzealous salesman can get an elevator heavily loaded with book accounts in comparatively little time if he is not blessed with the judgment that can distinguish between good and bad accounts. The good accounts are usually the hardest accounts to sell. It is good practice for the salesman when he takes an order to have the order signed by the farmer. A signed order closely approximates a promissory note.

Elevators with an excess of working capital often make it work overtime for them by wise extension of credit. Where a farmer has cattle but no feed and no money the elevator will furnish the feed and take an interest-bearing chattel mortgage on the cattle to protect the credit.

Extension of credit in the form of a localized seed loan is a good entering wedge for promotion of pure seed and improved production plans. An Ohio elevator operator used a similar plan to encourage the growing of pure strains of heavy oats with such success that in a few years practically all of the farmers in his community were producing bigger and better oat crops grading well above average. The increased volume of quality oats he was able to buy and ship as a consequence gave him premium prices and the sobriquet "Sam Rice, Oats Specialist."

This sort of community service is varied by



Sexauer & Son's Seed Warehouse and Cleaning Plant at Des Moines, Ia.
[See facing page]

Iglehart Brothers, at Evansville, Ind. In the past southern Indiana has suffered severely from smutty wheat and garlic. Iglehart Brothers mounted a combination seed cleaner, treater, and grader on a truck that went from farm to farm and performed on the farmers' seed wheat for a nominal fee. Today this company has six such trucks and southern Indiana farmers are producing better and cleaner wheat and selling closer to top prices than ever before.

Helping farmers to bigger and better profits by making quality seed available has had a strong play among elevators in the Northwest this year. Minnesota elevator managers have taken pride in shipping in seed from the rust resistant Thatcher strains of wheat, and Wisconsin 38 barley.

Opening Day: For a quick response few business building plans can beat "Elevator Day." There are numberless variations, but elevators thru the eastern part of the Corn Belt are quick to take advantage of any reasonable excuse, such as construction of a new elevator, installation of new machinery, or just a desire to "get acquainted" to widely advertise a field day by hand bills and thru the local papers, inviting farmers thruout the territory to attend.

This plan got the new elevator of Austin Brothers at Round Grove, Ill., off to a good start. Prizes were offered for the best guess on how many kernels of corn a hungry rooster that had been starved for three days before the event, would eat before he became satiated. Prizes were offered for the first load of grinding to be brought to the elevator, and for the load of grain hauled the longest distance.

All day long busy field men from the companies supplying Austin Brothers with farm machinery, feeds, twine, coal, and other lines were busy on the job promoting sales to farmers. Refreshments were plentiful, and while the "opening" was expensive the company is reported to have made a substantial number of sales on the same day.

G. G. Davis, at Jackson, Ind., near Tipton, Ind., used the electrifying of his elevator, and installation of a new grinder as an excuse for an official opening day Nov. 23, at which he served coffee and doughnuts for refreshments and reported satisfactory results.

Another Indiana elevator annually holds "Candy Day" a few days before Christmas. A huge box of Christmas candies, and another huge box of peanuts are set on a table in the elevator office, and farmers are invited to help themselves. Altho the event is advertised far and wide and brings many farmers to the elevator it is surprising how few stuff their pockets simply because the candy and peanuts are free.

Any quick get-acquainted plan must be well advertised to be successful. The mediums of advertising are hand bills, local papers, mimeographed announcement letters, mimeographed post cards. In the case of Austin Brothers a mimeographed letter announcing the "Opening

Day" was mailed out, but on the bottom of each announcement a personal invitation was penned.

A Virginia elevator has found mimeographed post cards an inexpensive way to carry quick, brief messages to the trade on special offerings, and often use them for nothing more than an invitation to trade.

When demonstrations are run the effect is likely to be largely lost without due publicity. Local papers are usually happy to run special stories on these demonstrations, and farmers pleased with the results of feeding or growing demonstrations are flattered if their pictures are taken with their products and posted in the elevator office.

An up-on-his-toes elevator manager will seize every break at publicity for his customers and his company, and will do a regular job of advertising, well realizing that while "word of mouth" advertising is the finest in the world, printing circulates much more rapidly.

New Seed Warehouse and Cleaning Plant

Geo. P. Sexauer & Son, who operate a line of elevators from their headquarters at Brookings, S. D., and specialize in field seeds, have recently completed a 2-story and basement seed cleaning plant and warehouse at Des Moines, Ia.

The walls of the building are of brick and the interior is of substantial mill construction with all floors of smooth, hard maple. The milling room was painted three coats of white enamel, easy to keep free of dust.

A dust collecting system, furnished by the Day Company, heating plant and air conditioning system contribute to the comfort of the workers, efficiency and safety.

In entering this seed plant where the processing machines are located on the main floor, one is given the impression that he is in a creamery. Everything is spotless white and the absence of dirt and dust is what catches the visitor's eye. Even with all the machines going full blast there is no dust and dirt blowing around as in an ordinary grain cleaning plant. This is accomplished thru a system of ventilation to the spouts, bins and legs that the T. E. Ibberson Co. has developed for plants of this kind.

The front part of the building is divided into offices, testing laboratories, wash rooms, etc. Carload shipments are handled direct from the tracks in the rear of the building, and the largest trucks can enter and leave thru the double driveway at the front.

The equipment includes four elevator legs, a freight elevator, S. Howes Seed Cleaner, Clipper Cleaner No. 157, Hart-Carter Separator, special moisture machines and gravity machines, sack sewing machines, sack cleaner, special valve fittings, Fairbanks-Morse and G. E. Motors, and several dial type Fairbanks Scales built into the floors at convenient points. A novel gravity system of handling seeds avoids

the necessity for a multiplicity of elevator legs. The warehouse and all of the building is flooded with a lighting system in keeping with the underwriter's specifications and all light and power wires are in conduit.

The Eureka Standardized Seed Cleaner supplied by the S. Howes Co. is adapted to clean every variety of seed without sacrifice of good seed, whether excessively dirty direct from the thresher or a more delicate recleaning operation. It is of heavy construction and has the Buhler eccentricless drive.

The transmission machinery and texrope drives were furnished by the Strong-Scott Mfg. Co. The building was designed and erected by the T. E. Ibberson Co.

E. C. Clark is the local manager for Sexauer & Son, with an able force of assistants.

Slipped Tendon Prevented With Manganese

Manganese is the mineral that prevents slipped tendon, according to exhaustive studies by Malcolm Lyons and W. M. Insko, Jr., at the Kentucky experiment station. Just to make sure they fed breeding hens for two months on a diet virtually free from manganese, aluminum, zinc and iron, a period that brought the hatchability of their eggs down to 10 per cent.

Eggs from these hens were incubated. Where the embryos developed sufficiently for examination before death they were invariably found possessed of short legs, short wings, and a "parrot beak." Only a few chicks hatched out. These did not have slipped tendons, but they had very short legs.

Another group of hens that were fed the slipped tendon producing diet, plus 40 ppm. each of manganese and zinc in the form of metallic sulfates, and 100 ppm. of iron as ferrous ammonium sulfate, produced eggs that gave good hatchability and normal chicks.

Examination of the eggs showed that these eggs from hens on the mineral free diet contained much less manganese than did the eggs from the group that received the mineral supplement. To check on whether the manganese or one of the other minerals controlled normal development the experimenters injected 0.03 mgs. of manganese directly into the albumen of eggs from hens on the mineral free diet, before placing in the incubator. The result was an increase in the hatchability of the eggs, and normal development of the embryos. An injection of the same amount of zinc had no effect.

Pleasantville, Ia.—The first federal government 50c per bu. corn loan in Iowa this year was granted Dec. 8 to Donald Clark, local farmer, who borrowed \$481 on a crib that measured as containing 982 bus. of 15% moisture corn, a 2% deduction reducing the loan. Moisture tests are being made on corn being offered by farmers for government loans and sealing.



Three Coats of White Enamel and Efficient Dust Control Help to Keep Sexauer & Son's New Seed Warehouse Spick and Span
[See facing page]

New!

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F. B. Morrison

This edition has been entirely rewritten and revised to contain the latest information on live stock feeding and nutrition. Entirely new compilations of recent analyses of American feeds are presented in the Appendix Tables. Extensive data are presented concerning the mineral and vitamin content of important feeds.

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Grain & Feed Journals

Consolidated

332 S. La Salle St.

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Feedstuffs

San Francisco, Cal.—The Associated Feed Dealers of California met at the St. Francis hotel Dec. 10. About 60 dealers were in attendance.

Ashville, N. C.—Thomas W. Brown of this city has been named by W. K. Scott, state commissioner of agriculture, to represent feed salesmen on the North Carolina Feed Manufacturers com'te, a 7-man group formed to safe-guard the purity of feeds sold in the state. For the past 13 years he has been a feed salesman with the Farmers Federation here.

The feeding of copper to calves receiving a ration of milk, alfalfa or mixed hay, and grain may have some beneficial effects, and the feeding of iron to such calves probably has no beneficial effect, according to experiments by the Ohio Station. It was found that a calf ration, on a dry basis, which contains 0.0176 per cent of iron and 0.0013 per cent of copper furnishes adequate amounts of these minerals for normal growth up to 8½ months of age.

Production Distillers Dried Grains Low

Washington, D. C.—Alfalfa meal production of 27,950 tons during November was smaller than the output of 30,510 tons a year ago, but was materially larger than the November output in earlier years. Production for the six months ended November 30 totaled 173,400 tons compared with 167,000 tons last year and the 1932-1935 average of 115,000 tons for comparable period.

Brewers dried grains production declined seasonally in November and totaled about 7,260 tons compared with 7,650 tons in October and 10,020 tons in September. Production for the five months ended November 30 aggregated 49,500 tons against 51,600 tons a year earlier.

Distillers dried grains production continued at a low level in November with only about 13,680 tons turned out compared with 21,520 tons a year ago. Output July through November totaled only 60,080 tons against 106,250 tons for comparable period last year. Many plants were still closed at the end of November.—Buro of Agricultural Economics.

California Exempts Feed From Sales Tax

The California Board of Equalization ruled on Dec. 1 that all feed sold to produce food for human consumption is exempt from the 3 per cent sales tax applying on retail merchandise.

Thus ended a persistent 3-year effort of the California Hay, Grain & Feed Dealers Ass'n to aid small feed customers. The ruling helps families who produce their own table needs of butter, eggs, milk or meat. It applies to all feeds sold for chickens, rabbits, pigeons, turkeys, ducks, geese, beef or dairy cattle, or any other form of livestock, the products of which are used for human food. The sales tax remains collectible, of course, on feed sold for feeding work animals, saddle horses and pets.

Cod liver oil, salt, bone meal, calcium carbonate, double purpose limestone granulars and oyster shells, used by poultry and livestock producers, are regarded as feeds, on which the sales tax will not apply when sold for feeding to produce food for human consumption. The tax will apply, however, to

sales of sand, charcoal, and granite grit, because these are not directly assimilated by the animal consuming them.—I. J. Stromnes, sec'y, California Hay, Grain & Feed Dealers Ass'n.

Iron and Copper Deficiency

In a 6-week growth, metabolism, and body balance experiment, at the Pennsylvania Agricultural Exp. Sta., with twenty-four young growing, albino rats as subjects, an iron-and-copper deficient diet (whole milk powder) was compared with another diet differing only in that it was supplemented with iron and copper salts. Feeding was controlled by the paired method.

The rats which received the iron-and-copper-deficient diet promptly developed typical cases of nutritional anemia. These rats digested more of the energy and nitrogen of the ration, produced more heat, and stored more water than did those which received the iron and copper supplements, and also limited the food consumption of their normal pair mates.

The rats which received the supplements of iron and copper, made greater gains of body weight, stored more energy, and gained more

Feed Prices

The following table shows the closing bid price each week for January futures of standard bran and gray shorts, spot cottonseed meal, soybean oil meal, and No. 1 fine ground alfalfa meal, in dollars per ton and No. 2 yellow corn and No. 2 yellow soybeans in cents per bushel:

	Minneapolis		Kansas City	
	Bran	Midds.	Bran	Shorts
Aug. 14.....	19.50	22.00	17.50	19.00
Aug. 28.....	17.00	17.25	16.65	19.00
Sept. 4.....	17.00	17.00	16.25	19.35
Sept. 18.....	19.00	21.00	17.75	20.00
Oct. 2.....	19.00	21.00	17.65	20.00
Oct. 16.....	19.00	21.50	18.35	20.00
Oct. 30.....	19.00	19.00	18.25	19.25
Nov. 6.....	19.25	19.00	18.00	18.70
Nov. 13.....	21.00	21.00	19.00	19.25
Nov. 20.....	20.50	20.50	18.40	19.60
Nov. 27.....	19.00	19.00	17.40	18.90
Dec. 4.....	18.50	18.50	17.25	18.05
Dec. 11.....	19.50	19.75	18.00	18.55
Dec. 18.....	19.75	20.00	17.75	18.35

	St. Louis		Chicago	
	Bran	Shorts	Soybeans	Meal
Aug. 14.....	19.65	21.00	No sales	34.00
Aug. 28.....	18.75	20.75	No sales	33.00
Sept. 4.....	18.50	20.85	No sales	31.00
Sept. 18.....	19.95	21.85	No sales	34.20
Oct. 2.....	19.70	22.00	No sales	28.00
Oct. 16.....	20.60	21.60	.97	27.70
Oct. 30.....	20.30	21.00	.93¾	28.70
Nov. 6.....	20.15	20.50	.92½	29.70
Nov. 13.....	21.15	21.50	.93	29.70
Nov. 20.....	20.50	21.60	.93	29.50
Nov. 27.....	19.50	20.75	.92¼	28.70
Dec. 4.....	19.25	20.10	.93½	28.00
Dec. 11.....	20.20	20.35	.94	28.00
Dec. 18.....	20.20	20.50	.94¾	27.70

	Cottonseed Meal		Kansas City	
	Ft. Worth	Memphis	Alfalfa	Corn
Aug. 14.....	33.00	25.50	22.50	105
Aug. 28.....	26.00	19.85	22.00	99½
Sept. 4.....	23.00	20.80	21.50	103½
Sept. 18.....	23.00	20.75	21.50	106¼
Oct. 2.....	23.00	21.75	21.50	90
Oct. 16.....	26.00	22.00	22.00	66
Oct. 30.....	26.00	22.60	22.00	61
Nov. 6.....	25.50	22.50	21.50	56
Nov. 13.....	25.50	23.00	21.50	54½
Nov. 20.....	26.00	23.00	21.50	56
Nov. 27.....	26.00	23.00	21.50	54½
Dec. 4.....	26.00	20.75	22.00	56
Dec. 11.....	25.00	21.00	21.50	56½
Dec. 18.....	25.00	22.00	22.00	59¼

fat and nitrogen than did the anemic rats, which consumed the same quantities of nitrogen and energy.

The difference between the metabolizable energy values of the diets for the two groups of rats was very small, but the odds that this difference was significant were 100 to 1.

The hearts, spleens, and kidneys of the iron- and copper-deficient animals were generally much enlarged.

Adulterations and Misbrandings

Transit Milling Co., Sherman, Tex., was fined \$50 for shipping a number of sacks of allegedly misbranded cottonseed cake from Texas into Kansas about Apr. 20, 1936. Labeled for the Choctaw Sales Co., Kansas City, Mo., to contain not less than 43 per cent protein, the product was found to contain not more than 39.63 per cent protein.

Golden Grain Mills, Inc., Harrisburg, and Rossmoyne, Pa., was alleged to have shipped 15 bags of dairy feed from Pennsylvania into Maryland about Apr. 12, 1937, which were later seized at Reisterstown, Md., and alleged to be misbranded. Labeled to contain 34 per cent protein, the product was found to contain only 31.29 per cent protein. No claimant appeared. Judgment of condemnation was entered and the product ordered destroyed.

Vitality Mills, Inc., Chicago, Ill., was fined \$25 and costs for shipment of allegedly misbranded hog feed from Illinois into Wisconsin about Aug. 17, 1936. The product was labeled "Vitality 40% Hog Balancer Guaranteed Analysis Protein 40%" and statements on the label named potassium iodide and cane molasses among the ingredients. These two ingredients failed to show up in samples analyzed. Undeclared cottonseed hulls showed up, and the protein analysis did not exceed 34.93 per cent.

Bitterweed Poisoning of Sheep

Previous feeding tests and field observations have established the toxicity of bitterweed (*Actinea odorata*) for sheep. The experiments reported herein prove that the minimum lethal dose of the fresh green bitterweed for healthy sheep, both during a normal year and during a drouth year, demonstrate the toxicity of the weed for sheep on fattening, maintenance, and less-than-maintenance rations. The poisoning is shown to be cumulative in type.

Feeding tests conducted with healthy yearling sheep showed that the minimum lethal dose of fresh green bitterweed growing during a year of normal rainfall and range vegetation was approximately 1.3 per cent of the body weight of the animal. A similar test in which healthy sheep were fed fresh green bitterweed growing during the drouth year of 1934 showed that the minimum lethal dose was approximately .5 per cent of the body weight. Feeding experiments of fresh green bitterweed at different stages of growth showed that there is a slight increase in toxicity as the weed matures.

Feeding tests conducted with healthy sheep which were eating a fattening ration and known to be gaining weight at the beginning of the test demonstrated that such animals were susceptible to bitterweed poisoning and that their state of nutrition had no appreciable effect on their susceptibility or resistance to the poisoning. Similar tests conducted on sheep receiving a less-than maintenance ration and known to be losing weight likewise showed that the state of nutrition had no appreciable effect on the animal's susceptibility to the poisoning.

Daily feeding of fractional amounts of the established minimum lethal dose of the fresh green bitterweed over varying periods of time to sheep on a maintenance ration demonstrated that there is a definite correlation between the amount of weed fed and the time of appearance of symptoms of poisoning.

More Vitamin A in Dark Orange Kernels

Dark orange kernels of corn were found, in tests conducted the past year, to contain more carotene than pale yellow kernels from the same sample. The tests, which were made in continued work to determine the relative vitamin-A value of several varieties of yellow corn, were carried on by Julia Outhouse and Milicent Hathaway at the Ill. Exp. Station.

Both spectrophotometric and feeding studies were made. For the spectrophotometric studies samples of corn were ground sufficiently fine to pass thru a 60- or 80-mesh sieve. Various methods and solvents were used to extract and separate the yellow pigments. The extracts were placed in a spectrophotometer, an apparatus which can be used to distinguish chemical compounds on the basis of the specific rays of the spectrum which are absorbed as they pass thru the solvent.

For the feeding tests pale yellow kernels and deep orange kernels were taken from the same lot of Illinois Hybrid 168. When mixed in the ration and fed to the test animals, between 7 and 8 per cent of the orange kernels and 8 and 9 per cent of the pale yellow kernels were necessary to supply an optimal amount of carotene for growth. The dark orange kernels therefore appeared to be 12 per cent richer in carotene than the pale yellow kernels.

Plans are under way to study the effect of storage at summer temperature and of different stages of maturity on the carotene content of corn. Co-operating in this work is J. R. Holbert, U. S. Department of Agriculture.

Soybeans for Pigs

At the Iowa Exp. Station eight types of soybean rations were compared. Cracked shelled corn was the basis of all, and all lots of pigs were on rape pasture and were self-fed a mineral mixture. Various protein supplements included tankage self-fed, cracked soybeans self-fed, and additions of 5, 10 and 20 per cent of cracked soybeans, 10 per cent of soybean oil meal, or 9.9 per cent of soybean oil meal plus 1.3 per cent of soybean oil with corn, the grain mixtures being self-fed in all cases.

Pigs receiving soybeans free choice consumed a heavy allowance, particularly during the latter part of the trial, amounting to about 12 per cent of the ration over the entire period. Corn consumption was correspondingly reduced and the rate of gain per unit of feed was relatively high. The pigs receiving 10 per cent of soybean oil meal made slightly more rapid gains and required less feed per unit of gain than those receiving 10 per cent of cracked soybeans. Additions of soybean oil to the corn-soybean oil meal ration improved its effectiveness in promoting gains.

Soybeans in the diet had a pronounced detrimental effect on the hardness of the fat. The iodine number of the fat from pigs receiving no protein supplement and the above-listed supplements in order averaged 68.87, 67.91, 78.76, 72.98, 79.99, 85.25, 71.92, and 79.17, respectively. It is concluded that more than 5 per cent of soybeans in the ration over the entire growing and fattening period will result in undesirable carcasses from the standpoint of the firmness of the fat.

Calcium of Spinach Not Utilized

In their plan of comparing dried skim-milk powder with other high-calcium foods in the American diet as a source of this important mineral, B. W. Fairbanks and H. H. Mitchell compared it with fresh spinach during the past year. The experiment was made possible by a donation of funds to the University of Illinois by the American Dry Milk Institute.

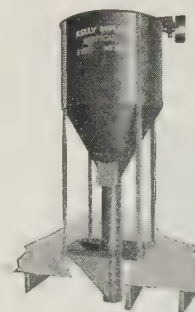
It was clearly shown, in agreement with a number of earlier experiments, that the calcium of spinach is very poorly utilized by the growing animal. In fact results of the experiments failed to show that any portion of the calcium of spinach is available under conditions permitting a very high utilization of milk calcium. It was even suggested that the presence of spinach in the diet may impair the utilization of calcium in foods with which spinach is fed. This unfavorable influence of spinach on calcium utilization is probably associated with its high content of oxalic acid, calcium oxalate being a very insoluble salt.

Curly-leaf spinach bought on the local market was used in these tests. The dried skim-milk powder with which it was compared was prepared by the spray process, being preheated before dehydration. It should be noted in particular that the spinach contains 2.57 times as much oxalic acid as calcium, more than enough to combine completely with it.

The results demonstrate a very poor utilization of spinach calcium. These findings are not inconsistent with the belief that the calcium of spinach not only is of no use in animal nutrition, but also that the presence of spinach in the diet may impair the value of the calcium of other foods.

Washington, D. C.—During the first 10 months of 1937 the income of American farmers was approximately \$751,000,000 above their income for the same period a year ago, reports the Bureau of Agricultural Economics. Total farm income, including government payments, for 1937 is estimated at \$7,087,000,000.

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Manganese in Poultry Nutrition

By L. C. NORRIS, of Cornell University, before Nutrition School for Feed Manufacturers.

In 1936 Wilgus, Norris and Heuser reported that manganese was markedly effective in preventing the development of perosis (slipped tendon) in chicks when added to the ration in very small quantities. The symptoms of perosis are in general enlargement of the hock joint, twisting or bending of the ends of the tibia and the metatarsus adjoining the hock joint, and slipping of the Achilles tendon from its condyles. The slipping of the tendon causes complete loss of use of the affected leg. Shortening and thickening of the leg bones of chicks suffering from perosis have been noted in several instances. The presence of excess calcium and phosphorus in otherwise normal chick rations causes an increased incidence of perosis. It is frequently observed in young chickens, turkeys, pheasants, grouse and quail.

The Requirement of Chicks for Manganese.—The discovery of the role that manganese plays in the prevention of perosis was in part accidental. In an effort to evolve an experimental ration which would cause all of the chicks, or nearly all, to develop perosis, Wilgus and his associates used a special supply of technical mono-calcium phosphate to raise the calcium and phosphorus levels. This mono-calcium phosphate, however, was surprisingly ineffective in increasing the number of cases of perosis. At first it was thought that perhaps the Barred Plymouth chicks used in this experiment either were less susceptible to perosis than most strains of this breed, or that the slightly retarded growth obtained in these chicks thru causes unknown prevented its development. The possibility that the nondevelopment of perosis was due directly to the use of the technical mono-calcium phosphate was also considered.

Hence, in a second experiment this mono-calcium phosphate was compared with other carriers of calcium and phosphorus, using a different strain of Barred Plymouth Rock chicks as the experimental animals. Again this technical mono-calcium phosphate prevented the development of perosis, whereas the other carriers of calcium and phosphorus promoted its development. This caused Wilgus and his associates to suspect that in the mono-calcium phosphate there was present some impurity, inorganic in nature, which was responsible for its preventive action. Spectrographic analysis of the technical mono-calcium phosphate showed that it contained a small quantity of manganese and traces of iron. Further evidence of the possible importance of manganese in the prevention of perosis was found in the fact that spectrographic analysis of the ash of the hocks of normal chicks revealed the presence of manganese, whereas this procedure failed to show its presence in the hocks of chicks suffering from perosis.

Conclusive Experiment.—In a third experiment, therefore, manganese was added to the basal perosis-producing ration in order to test the theory that this element might be the preventive factor in the technical mono-calcium phosphate. Manganese chloride was used as the source of manganese. The amount of manganese put in the ration provided 150 parts of manganese per million parts of ration in addition to the 10 parts per million already present. The results of this experiment showed that a striking decrease in the incidence of perosis had been obtained by the addition of manganese chloride.

This experimental work was repeated, using not only the levels of manganese fed in the previous experiment, but also an amount (25 p.p.m.) equivalent to that provided in the earlier experiments by means of the technical mono-calcium phosphate. The addition of manganese to the basal perosis-producing ration again caused a striking decrease in the incidence of perosis. It was evident, therefore, that manganese plays an important part in the prevention of perosis.

Other Manganese Salts Effective.—These results were later confirmed by Gallup and Norris (2), Heller and Penquite (3), Schaible, Bandemer and Davidson (4) and others. In confirming the results of Wilgus and his associates Gallup and Norris used manganese sulfate, manganese carbonate, manganese dioxide, and potassium permanganate, as well as manganese chloride, as sources of manganese. These various salts were found to be about equally effective in preventing perosis when fed so as to provide a total of 50 parts of manganese per million.

Quantity Required.—An experiment was then conducted by Gallup and Norris in an effort to determine the quantity of manganese required to prevent perosis in chicks. Levels of 10, 20, 30, 40, 50 and 70 parts of manganese per million parts of ration were fed. Forty parts of manganese per million appeared to be slightly less effective in preventing perosis than 50 p.p.m. On the other hand, 50 parts of manganese per million was just as effective as 70 p.p.m. or the higher levels used in studies on the toxicity of manganese. It appeared, therefore, that 50 p.p.m. is the optimum amount of manganese required by the New Hampshire chicks used in this experimental work.

Essential for Growth.—Wilgus and his associates found evidence that manganese, in addition to being markedly effective in preventing perosis, was also essential for the growth of chicks. Gallup and Norris were able to confirm this observation by comparing the growth of chicks, fed insufficient manganese but not showing crippling of the legs, with the growth of chicks fed optimum levels of manganese. They found that the growth of chicks fed a low manganese ration was much less than that of chicks receiving an adequate supply. In one experiment the effect of a deficiency of manganese upon growth was still clearly evident up to 20 weeks of age, at which time the experiment was discontinued.

A study was also made of the possible toxic effect of feeding high levels of manganese.

Levels of 500 and 1,000 parts of manganese per million parts of ration were fed from time of hatching up to 27 weeks of age. The gains made by the chicks on these levels of manganese were just as good as the control chicks which were fed 50 parts of manganese per million. The pullets in the group which received 1,000 parts of manganese per million had an egg production record of 66.4% for the last four weeks of the experiment. No evidence that manganese possessed a toxic effect when fed at a level of 1,000 p.p.m. was obtained in this experiment.

Poisonous in Excess.—Manganese, however, is a toxic element when fed in sufficient quantities and it has been found to be toxic to chicks. Heller and Penquite fed chicks a ration containing 1% of manganese carbonate in their experimental work, confirming the discovery of the role of manganese in the prevention of perosis. This provided nearly 5,000 parts of manganese per million. At this high level of manganese 52% of the chicks were dead at the conclusion of the experiment. This level of manganese, however, is approximately 100 times the level (50 p.p.m.) found by Gallup and Norris to be optimum for the prevention of perosis and normal growth. Hence it appears that the use of small quantities of manganese in poultry rations is not detrimental.

[To be Continued.]

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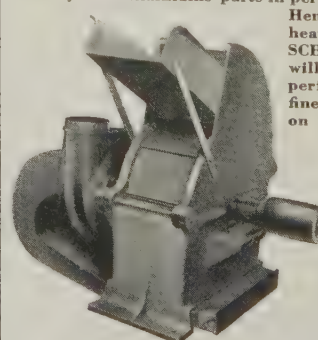
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Judge Hale Passes Away

Dwight E. Hale, poultry specialist and breeder of Great Dane dogs, died Dec. 16, aged 60 years.

He was a lecturer on poultry improvement and a member of the American Poultry Ass'n and the agricultural council of the Chicago Ass'n of Commerce.



Judge D. E. Hale, Chicago, Deceased

He was born at Fort Plain, N. Y. Leaving the Albert Dickinson Co. in 1924 he joined the Northwestern Yeast Co., Chicago, for which company he has since supervised an experimental poultry farm at Glen Ellyn, Ill., a suburb of Chicago, where he resided.

As a judge at poultry shows he became widely known and was highly esteemed by his associates.

Poultry Experiments

Fortified cod liver oil was slightly more efficient on a unit basis than straight cod liver oil, irradiated cholesterol and pilchard oil in experiments at Ontario's agricultural college, reported by J. B. Smith and H. D. Branier.

In North Carolina experiments a 17.5 per cent protein level in poultry rations found was not warranted, growing birds doing just as well in body weight, time of sexual maturity, and pullet year egg production on a 15 per cent protein level.

Addition of wheat germ oil to the ordinary diet of mash and grain fed to hens in winter months when they are without fresh green fodder or direct sunlight, has been found to increase the hatchability and, to some degree, the production of eggs.

Avian polyneuritis is due to an excess of lactic acid in the tissues, according to R. Lecoq in *Comptes Rendus Societe Biologie*. He concludes that an increase in lactic acid calls for an increase in the amount of vitamin B, in order to prevent polyneuritis.

From 8 per cent to 10 per cent of animal protein will give the best results for birds in strict confinement, and this may be safely reduced to 5 per cent for birds on free range, declares Tom Newman in *Eggs*, after observations on experiments for three years.

Chickens consumed less oyster shells than mussel shells in free feeding experiments in Germany reported by A. Haensel. Average consumption per day was 3.7 grammes oyster shells and 2.89 grammes mussel shells. Consumption per egg was 8.1 gramme mussel shells. Hatching results were the same for both types of shells.

The antirachitic potency of fish oils was not improved by irradiation, in experiments by Haman and Steenbock, comparing the irradiated chicken fat, and the liver oils of cod, sardine, burbot, halibut and tuna, all of which had about the same relative potency for chicks as for rats, even halibut and tuna being only slightly inferior.

The addition of calcium carbonate to a basal all-mash ration of 60 mixed wheat feed, 20 ground yellow corn, 20 meat scrap (50% protein), 1 cod liver oil and 1 common salt, improved the digestion of the protein but had no significant effect on the digestion of fat and fibre when fed to Rhode Island Red hens at the Kentucky experiment station.

As much as 6% salt in a dry mash fed to an experimental pen of birds did not destroy the health of chickens, tho it did reduce the output of eggs by 25%, in experiments reported by Tom Newman. No material difference in health or egg production occurred when hens were fed 3% salt, and 2%, he concluded, is a perfectly safe amount of salt to use in the ration.

Barley, corn, wheat and oats rations seemed equally valuable in fattening poultry, particularly in short-time crate fattening, concluded Prof. E. W. Crampton, National Research Council, Ottawa, Can., reviewing available data on the feeding values of grains for poultry feeding. Corn and barley fed birds developed a superior quality of flesh, due to larger deposits of fat in the tissues, resulting in juicier and more tender edible portions.

Flavin is apparently a factor in chick nutrition, conclude R. M. Bethke and P. R. Record from experiments at the Ohio experiment station with chicks on a ration of yellow corn, wheat, wheat bran, Argentine casein, minerals, and cod liver oil. The birds grew poorly and developed leg disorders. Adding 20 or more micrograms of lactoflavin, or synthetic ribo-flavin daily to the ration increased the growth of the chicks and prevented the nutritional leg disorders.

The vitamin D of irradiated cholesterol equaled the vitamin D of cod liver oil in preventing rachitic manifestations in chicks, in experiments at the Ohio experiment station by Bethke, Record, and Wilder.

Chicks utilize carotene as a source of vitamin A to good advantage according to experiments with White Leghorns by Record, Bethke and Wilder at the Wooster, O., experiment station. The response of chicks, depleted of vitamin A reserve, to carotene or to cod liver oil was approximately similar when equivalent rat units were fed, indicating that chicks and rats utilized carotene as a source of vitamin A in the same order. The vitamin A requirements of chicks increase with age.

Addition of 10% meat meal to a cereal fattening ration for poultry increased gains 18% in experiments at the Dominion experimental farms, Ottawa, Ont., reported by H. S. Gutteridge. Addition of 5% ground oyster shell increased both feed consumption and gain by 10%. Addition of 5% mutton fat had no material effect on feed consumption, but increased the gain by 19%, efficiency of use of feed by 30%, increase in body fat by 17% and improvement of 17% in the grading of the birds.

Eggs from hens fed different quantities of vitamin A in their rations contained different quantities of vitamin A in the egg yolks in proportion to the amount of vitamin A in the ration, in experiments at the western Washington experiment station by Bearse and Miller. Chicks hatched from such eggs lived and grew on a vitamin A deficient ration in proportion to the amount of vitamin A in the ration of the breeding hens. Maximum hatchability was attained with 500 Sherman-Munsell vitamin A units per 100 gm. of feed.

A ration containing 18 per cent to 19 per cent protein, derived chiefly from dried buttermilk, was fed to different breeds of chicks for the first six weeks, in Queensland experiments, reported in the *Queensland Agricultural Journal*. After that, White Leghorns did equally well on a lower level of protein (14% to 15%) and a large part of the milk could be replaced with cheaper protein supplements. Heavier breeds of fowls, like Light Sussex and Australorp, made more satisfactory gains when the higher level of protein was continued up to nine weeks of age.

The Idaho Exp. Sta. reports that a level of 0.25 mg. carotene per hen provided sufficient protection to maintain normal egg production and hatchability of eggs and to prevent the development of any sp. Vitamin A deficiency lesions. The 0.5 mg. level, however, produced an increase in egg production, hatchability of eggs, and a significant increase in the carotene content of the blood of birds. The amount of dehydrated alfalfa required to maintain a level of 0.25 mg. of carotene per bird daily averaged only 3% of the mash for the year. Previous data showed a 5% level of dehydrated alfalfa was inadequate as a source of vitamin A.

High fat salmon fish meals can be stored for a year and be satisfactorily used in poultry rations for protection from rickets if it is fed at sufficiently high levels, according to Carver, Heiman and St. John at the Washington experiment station. A 5.7 level of feeding was found necessary in the ration if the meal was to protect the chicks from rickets after being stored for a year. When the salmon meal was mixed with the all-mash basal ration and stored for a year it was found to hold its vitamin D better than when it was stored separately, indicating that the basal ration might act as an antioxidant for the vitamin D.

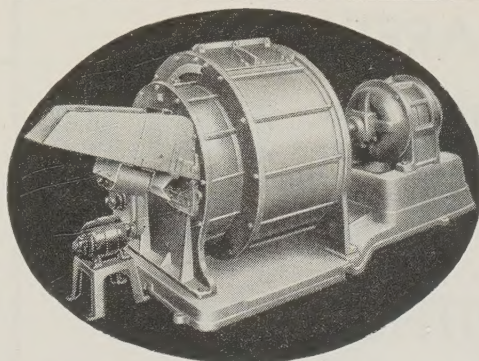
Oats Make Good Poultry Food

Oats rations, regardless of the form of oats fed or the method of feeding, were decidedly superior to yellow corn rations without oats, for egg production, according to experiments at the Ohio station reported by Kennard and Chamberlin.

Germinated oats gave good hatchability of eggs. Hulled oats were slightly better than other forms of oats from the standpoint of both egg production and feed consumption. No evidence in the experiment supported the general belief that corn is superior to oats for the maintenance of body weight of layers. As much as 40 per cent of oats could be fed without affecting the health of the birds.

The free choice system of feeding whole oats has practically ended feather picking, cannibalism and pick-outs in experimental flocks, even when chicks or laying pullets were closely confined.

Inclusion of a large amount of oats in a yellow corn ration caused a deficiency in vitamin A, but the deficiency is easily corrected with cod liver oil, or succulent green feed.



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Tolerance in Feed Control Bulletins

By L. S. WALKER, of Vermont, before Ass'n of American Feed Control Officials

I have studied many control bulletins from many states and am surprised to note how many are the ways in which the findings are expressed. An inspection bulletin may contain anywhere from a dozen to 500 pages. Those I have surveyed have averaged about 120 pages. Is it necessary to use so much paper and ink? Is it necessary to publish full analyses? They are quite commonly printed with the guaranties. However, all that a feed buyer really needs to know is whether the guaranty tells the truth and whether the ingredients claimed to be used are used. He does not care a rap whether or not the fat content of the Smith Co.'s Poultry Pusher is exactly 5.16 per cent. He wants to know whether or not the 5 per cent fat content which the Smith Co. guaranteed to sell him is present. A multiplicity of figures confuses rather than enlightens him. When a hen cackles, the poultry man wants to know one thing only, namely, whether she has laid or has lied.

As I have just said, practice varies among the states. Guaranties are often stated and analytical figures presented, representing moisture, ash, protein, fat, fiber and nitrogen-free extract. Twenty-seven figures and many words may be used, and they do not give the farmer one whit more information of real value than is vouchsafed, for instance, by the Kentucky Control. A typical Kentucky statement reads as follows (fictitious names used):

Dandy Milling Co., Danby Ky.

Inspection samples analyzed, 5.

Dandy 20% Protein Dairy Feed, 1; equaled guaranty.

Dandy 25% Protein Mash, 1; no cod liver meal found.

Dandy Chick Chaser, 1; too high in fiber.

Dandy Horse & Stock Feed, 2; too low in protein, too high in fiber, excess filler present, adulterated and misbranded.

I submit that the many who buy the Dandy Horse and Stock Feed and see 27 figures, as well as several words, needing interpretation, do not get so clear an idea of the situation as they get from the terse, direct statement of the Kentucky bulletin.

Tolerances. There is crying need for the establishment of some degree of uniformity in respect to what does and what does not constitute a deficient brand. Some control officials use tolerances; others do not. Some pillory a 20 per cent protein goods which analyzes 19.9 per cent. This is a palpable absurdity.

One-tenth of 1 per cent is far within the limits of experimental error, personal equation, sampling and analysis. Some feed inspection officials list among the goats every brand which falls in any particular below guaranty, even as slightly as 0.01 per cent. Tolerances seem to mean nothing in their young lives. I have examined two bulletins issued recently by northeastern stations. In one case the guaranties numbered about 2,850; in the other, about 1,125. The deficiency percentages as set forth by these two inspection agencies were 13 and 12 respectively. Had these bulletins been Vermont publications, the percentages would have been six and six. We would have been—we are—tolerant. Officials who cavil at a few hundredths of 1 per cent seem to me to be intolerant.

You will remember that the word tolerance has two meanings, "freedom from bigotry," and "allowed amount of variation from the standard or from exact conformity to the specified dimensions, weight, etc." However, the point that I am now making is that there is something "rotten in Denmark" when the feed control officials in neighboring states so variously interpret the same analytical data. The Association of Official Seed Analysts long ago established tolerances. It is high time we did so.

Prices of farm products continued to decline during the month ending in mid-October and by that time were only 112 per cent above the pre-war level (1910-14). The index of prices of things bought by farmers also continued to decline during the month and in mid-October stood at 128 per cent of pre-war, as reported by the U. S. Dept. of Agriculture. Heavy taxation of concerns manufacturing the things farmers buy, of course, prevents the price of things farmers sell from ever catching up with the rising prices of things the farmers buy.

Protein Influences Egg Size

That the protein level of the ration influences the size of the eggs laid by hens was proved by a two year experiment at the Idaho University.

The experimental birds were divided into three pens, and fed three different levels of protein. One of the pens received a ration containing 20 per cent animal by-products in the form of meat scrap, fish meal, and dried milk. The other pens were fed at lower protein levels.

Altho all of the pullets laid eggs of the same size at the beginning of the experiment, it took only a few weeks for the pullets on the heavy animal protein ration to show an increase in eggs weights averaging 2 ounces per dozen over the pullets on the medium and low protein rations. This advantage in egg size continued to the end of the experiment.

New Feed Trade Marks

"Petamine" is trade mark No. 397,972, filed by Kellogg Seed Co., Milwaukee, Wis., for a feed formula for cage birds.

"Sweepstakes" is trade mark No. 398,512, filed by John M. Wilson, doing business as Eureka Feed Mills, Meridian, Miss., for horse and mule feed, and laying mash.

A picture of a white hen, standing amid 17 white eggs on the ground, and suitably framed by circles, is trade mark No. 395,643, filed by Hales & Hunter Co., Chicago, Ill., for poultry feed.

"Co-Pro-Co Chips" over a diamond shaped design inclosing the hyphenated word, is trade mark No. 395,168, filed by Corn Products Refining Co., New York, N. Y., for a dog food ingredient composed of corn cereal and corn sugar molasses.

"O I B" in large shaded letters, a drawing and "organic intestinal bacilli" are the parts of trade mark No. 389,376, filed by Arthur W. Porter, Des Moines, Ia., for a livestock and poultry concentrate made from fine ground cereal grains and used as a feed.

"Banjo," and a picture of a banjo are the parts of trade mark No. 393,744, filed by John M. Wilson, doing business as Meridian Grain & Elevator Co., Meridian, Miss., for corn meal, pearl grits, hog feed, dog feed, horse and mule feeds, laying mash, dairy feeds, and bolted cream meal.

"Lasso" and a design similar to the letter H, a diamond shaped frame at the cross bar of the "H" inclosing a representation of a cow's head, and the words, "16% Dairy feed" are the principal parts of trade mark No. 397,520, filed by the Southern Milling Co., Augusta, Ga., for dairy feed.

"Harco Feeds" and the outline of a bag, bearing "sign of greater \$ value," are the parts of trade mark No. 394,487, filed by Roy V. Harper, doing business as Harper Grain Co., Pittsburgh, Pa., for poultry and live stock feeds, shelled corn, oats, whole mixed grains and fitting rations for poultry and live stock feeding purposes.

"LeGrande," in outline script, the beginning and end of the "L" carried ovally around to inclose the word, is trade mark No. 396,822, filed by the Loudonville Milling Co., Loudonville, O., for bran, middlings, mixed feed, scratch feed, chick scratch feed, egg mash, growing mash, starting mash, dairy feed, corn meal, graham flour and hog and pig meal.

"Schenley," a representation of a star faced medal, and "mark of merit Schenley" comprises trade mark No. 396,045, filed by the Schenley Products Co., New York, N. Y., for distillers dried grains for use as a cattle feed. The medal form, without words, has been filed as trade mark No. 396,046 by the same company for the same purpose.

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Combined Vitamin A Sources Favored by Poultry

Laying hens require a much greater amount of Vitamin A than do growing chicks, according to experiments at the Moscow, Ida., experiment station, reported by C. E. Lampman. In a check group of birds fed a white grain ration (wheat, oats and barley) with no vitamin A supplements all of the birds died within eight months, mortality occurring chiefly after the fifth month, tho few of the birds developed the swollen eyes associated with vitamin A deficiency.

Ground peas at 25 per cent of the mash, or 5 per cent dehydrated alfalfa as the sole source of vitamin A in separate groups failed to provide adequate vitamin A. A mash with 10 per cent dehydrated alfalfa failed to give complete protection. But when the mash was changed to give a variety of feeds, combining sources of vitamin A, such as alfalfa, cod liver oil, yellow corn, and peas, vitamin A protection was ample, even tho a vitamin A free scratch mixture was continued.

Principal sources of vitamin A in a poultry diet should be alfalfa meal and cod liver oil, according to the experiment. Fresh growing green feed is an excellent source when it is available. Improved methods of dehydrating alfalfa have made it a particularly potent product as indicated by its carotene content.

Satisfactory vitamin A protection was obtained with 7½ per cent dehydrated alfalfa meal in the mash, further supplemented with cod liver oil.

Digestion Co-efficients of Feedingstuffs

While there has been revolutionary advance in knowledge of the principles of animal nutrition in recent years extremely little work has been done on the digestibility of feeding stuffs; and the published compilations of digestion co-efficients of feeding stuffs for ruminants seem not to represent the discriminating spirit of the times.

For instance, the most frequently used tables of digestion coefficients of feeding stuffs for domestic animals are those which have been compiled by F. B. Morrison, and published in his reference work "Feeds and Feeding." The table for ruminants, in this work, represents cattle and sheep together without distinction of the one from the other, and without reference to the plane of nutrition; and on several accounts these data seem to require critical examination.

Data are presented representing the average digestibility of a ration by two steers at six planes of nutrition; and comparisons are made of the digestibility of rations by dry cows, milking cows, and sheep at various planes of nutrition.

With the steers the digestibility of crude protein, total of energy-producing nutrients, dry matter, organic matter, and carbon was highest at the plane of maintenance; was lower at half maintenance; and also diminished at each point of observation above maintenance.

The digestibility of rations by cows was also found to diminish with rise in the plane of nutrition above maintenance.

The data obtained did not afford a basis for critical judgment as to the influence of the plane of nutrition on the digestive efficiency of sheep.

Sheep digested the rations tested in general more efficiently than did the cows, except for the crude fiber contents.

The relative digestibility of crude fiber by sheep and cows differed with the proportion of roughage to concentrate in the ration; thus, with a proportion of concentrate to roughage of 1:1, cows digested crude fiber more efficiently than did sheep; but with a proportion of concentrate to roughage of 2:1, the sheep digested the crude fiber more efficiently than did the cows.

It is concluded that the published average digestion co-efficients of feeding stuffs for ruminants are, in general, several per cent too high to apply to the full-fed milch cow; apparently because these co-efficients have been determined, in the main, with sheep, at low planes of nutrition—since sheep cannot be depended upon to eat regularly at high planes of feed intake.

There is need, therefore, for separate digestion co-efficients of feeding stuffs for sheep and cattle; and for recognition, in this relation, of the influence of the plane of nutrition.—Pennsylvania Agri. Exp. Sta.

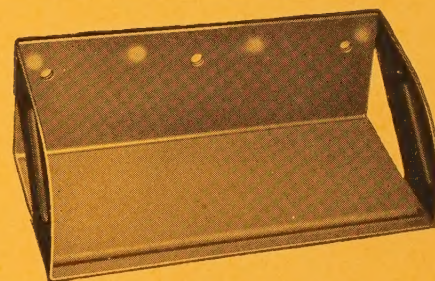
H. R. Tolley, administrator of the A.A.A., was the speaker of the day at the luncheon of the Agricultural Club, Chicago, Nov. 30. He declared acreage control was vital, and that if the surplus was held by the government it could not depress prices. He said stability of agricultural prices should be made a major objective of the new farm bill.

Peanuts for Hens Require Supplement

Each year farmers of Alabama produce approximately 10,000,000 bus. of peanuts, one-third of which is fed to livestock, principally to hogs. This bulletin reports two experiments: The first deals with the use of whole peanuts, ground peanuts with shells, ground peanuts without shells, and peanut meal in farm-flock rations for laying hens; whereas, the second gives the results of feeding peanuts and peanut products to baby chicks.

It was found that the protein supplied by peanuts did not give satisfactory results when fed in simple rations to hens or chicks unless supplemented with some other protein. Both buttermilk and skim milk were found to be very effective in supplementing peanuts. Fair results were obtained by using peanut meal as a protein supplement in rations for laying hens.—Alabama Circular 80.

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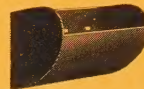


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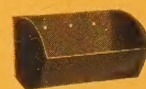
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